GE
Security

User Manual

Facility Commander™ Wnx

Seamless. Effective. Efficient.

Facility Commander™ Wnx Edition

User Manual

Copyright Copyright © 2007, GE Security Inc. All rights reserved.

This document may not be copied or otherwise reproduced, in whole or in part, except as specifically permitted under US and international copyright law, without the prior written consent from GE.

Document number/ 460641001B2 (March 2007).

Disclaimer THE INFORMATION IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. GE ASSUMES NO RESPONSIBILITY FOR INACCURACIES OR OMISSIONS AND SPECIFICALLY DISCLAIMS ANY LIABILITIES, LOSSES, OR RISKS, PERSONAL OR OTHERWISE, INCURRED AS A CONSEQUENCE, DIRECTLY OR INDIRECTLY, OF THE USE OR APPLICATION OF ANY OF THE CONTENTS OF THIS DOCUMENT. FOR THE LATEST DOCUMENTATION, CONTACT YOUR LOCAL SUPPLIER OR VISIT US ONLINE AT WWW.GESECURITY.COM.

This publication may contain examples of screen captures and reports used in daily operations. Examples may include fictitious names of individuals and companies. Any similarity to names and addresses of actual businesses or persons is entirely coincidental.

Trademarks and patents GE and the GE monogram are registered trademarks of General Electric.
Facility Commander Wnx Edition and logo are registered trademarks of GE Security.

Other trade names used in this document may be trademarks or registered trademarks of the manufacturers or vendors of the respective products.

Intended use Use this product only for the purpose it was designed for; refer to the data sheet and user documentation. For the latest product information, contact your local supplier or visit us online at `www.gesecurity.com`.

Contents

Preface ..... **xiii**
Conventions used in this document xiii
Safety terms and symbols xiii
Navigating a PDF file xiii
Related documentation xiv
Training sources xiv

Quick Setup guide 1

How to accomplish frequently performed tasks: **1**
How to configure a system in recommended sequential order **2**
How to accomplish administrator tasks. **21**
How to accomplish operator tasks **25**

Chapter 1. Introduction 1

Overview **2**
Product contents **3**
Before you begin configuration **3**
Licensing **3**
Client/server architecture **4**
Facility Commander Wnx edition services **4**
Simple File Sharing on WinXP **5**
Configuring firewall and DCOM settings **6**
Navigation **8**
Log on/log off 8
Logoff 8
Shutting down 8
Menus 9
Taskbar 19
Creating, editing, and deleting records **20**
Creating records 20
Editing records 21

Chapter 2. System preferences 23

Overview **24**
Configure preferences **24**
Setting tab 24
User Fields tab 27
Mode labels tab 28
Address Fields tab 29
Communication Settings tab 31
Clear Archive tab 33
Backing up data 34

Archiving 34
Appending archive databases 36
Restoring databases 36
Security tab 36
Advanced tab 38
Configure regions 39
Region tab 40
Backup Regions tab 41
APB Region Configuration tab 43
Global configuration regional rules 44
Replication and synchronization conflicts 46
Define facilities 47
Facility tab 47
Identify and configure clients 48
Networking 48
Client tab 49
Backup Clients tab 53
Takeover and recovery timing 55
Client redundancy overview 56
Define clients groups 57
Client Group tab 57
Create permissions 58
Permission tab 59
Determine and create operators 61
Operator tab 61
Multiple language support 64
Facilities tab 65
What's next? 66

Chapter 3. Schedules 67

Overview 68
Define time schedules 68
Time Schedules tab 69
Define event schedules 71
Event Schedules tab 71
Configure event notifier 73
Alarm Selection tab 74
Person Selection tab 75
Message Format tab 76
Define mode schedules 77
Mode Schedule tab 79
What's next? 81

Chapter 4. Devices 83

Overview 84
Device configuration 84
Controllers overview 84
Define controllers 86
Records generation 86
Controller Definition tab 92
Security tab 98
Time Zone tab 100
Comments tab 101
Events tab 102
Status tab 102
Controller configuration tab 104
Port Settings tab 106
Settings to Reach Host tab 107
Settings to reach controller tab 109
Controller flash and controller preference configuration 110
1. View/edit preference info 110
2. Start flashing controller(s) 111
3. View/edit flash files 111
Define readers 112
Reader tab 113
Door Functions tab 119
Routing tab 123
Functions Schedule tab 124
Routing Schedule tab 125
Reader type schedules tab 126
Status tab 127
Advanced tab 129
Define digital inputs 133
Digital Input tab 134
Digital Output tab 136
DO Groups tab 137
Schedules tab 139
Events tab 140
Status tab 141
Define digital outputs 143
Digital Output tab 144
Schedule tab 146
Manual Control tab 146
Advanced tab 147
Define digital output groups 149
Group tab 149
Schedule tab 151
Define instructions 151

Instruction tab 152
Define alarm responses 152
Alarm Response tab 153
Define alarms 153
Alarm tab 155
Set Instructions tab 157
Digital Outputs tab 158
DO Groups tab 160
Schedule tab 162
Events tab 163
Status tab 164
CCTV tab 166
Adding sound to an alarm 167
Define alarm groups 167
Group tab 168
Events tab 169
Define alarm priority 170
Configure alarm routing and bumping 172
Definition tab 173
Alarms tab 175
API connections 176
Definition tab 177
Define floors 177
Floor tab 178
Define elevators 178
Methods of elevator control 179
Floor tab of access right form (for systems using Micro controllers) 179
Configuring elevator control using a Micro controller: 180
Configuring elevator control using an ACU controller: 180
Elevator tab 181
Public Access tab 182
Floor/Digital Output tab 183
Floor/Digital Output/Digital Input tab 184
Elevator Control Sample Scenarios 186
What's next? 186

Chapter 5. Video 187

Overview 188
Video driver installation 188
Define digital video recorders 188
DVR 190
Digital Video Recorder form 190
Definition tab 190
Communication Settings tab 192
Video Display tab 193

Status tab . . . 194
Video windows . . . 196
Define camera presets . . . 197
Definition tab . . . 197
Define cameras . . . 198
Definition tab . . . 198
Preset tab . . . 200
Define event triggers . . . 201
Event tagging overview . . . 201
Video Event Trigger form . . . 201
Preset/Camera tab . . . 202
Readers tab . . . 202
Alarms tab . . . 204
Enable alarm video popup . . . 205
Intrusion Zone tab . . . 205
Record video to CD . . . 207
DVR disk is full . . . 208
Navigate video console . . . 209
Video Console window . . . 209
Navigation pane . . . 210
Play controls . . . 211
File menu . . . 211
Action menu . . . 212
Display menu . . . 212
Window menu . . . 213
Search for video . . . 213
How to search by system event . . . 213
How to search by video event . . . 214
How to search by time and date . . . 214
How to search by motion . . . 215
Define CCTV interfaces . . . 216
CCTV tab . . . 216
What's next? . . . 217

Chapter 6. Areas and intrusion zones . . . 219

Overview - areas . . . 220
Define areas . . . 220
Area tab . . . 221
Reader tab . . . 222
Alarm tab . . . 224
Digital output tab . . . 226
Arm/Disarm an Area . . . 227
Arm/Disarm an area by access right . . . 228

Arm/disarm by manual control. . . . 228
Overview - intrusion zones . . . 229
Define intrusion zones . . . 230
Intrusion zone tab . . . 231
Status tab. . . . 233
Arm/disarm an intrusion zone. . . . 234
What's next? . . . 235

Chapter 7. Access rights, departments, persons, and credentials . . . 237

Overview . . . 238
Define access rights . . . 238
Access rights tab . . . 239
Floor tab . . . 240
Digital Output Groups tab. . . . 241
Intrusion Zones tab. . . . 242
Areas tab . . . 244
Define personnel type . . . 245
Personnel Type tab . . . 245
Define departments . . . 246
Department tab . . . 246
Define persons . . . 247
Personnel tab . . . 248
Location tab . . . 250
User Fields tab . . . 252
Access Rights tab . . . 253
Photo tab . . . 254
Advanced tab . . . 255
Image capture . . . 256
Selecting an input device . . . 256
Displaying existing images. . . . 257
Design credentials . . . 259
Credential design form . . . 260
Design tab . . . 260
Installing print driver . . . 261
Define credentials . . . 262
Credential Definition tab . . . 263
Status tab. . . . 266
User Fields tab . . . 267
Mass update . . . 268
Conditions of mass update . . . 269
Define credential alias . . . 270
Credential Alias tab. . . . 270
Create custom credential status . . . 271
Create credential formats . . . 273
Credential format tab. . . . 274

Credential formats in 40-bit and 55-bit Wiegand protocol. . . . 276
What's next? . . . 277

Chapter 8. Guard tours . . . 279

Overview . . . 280
Define Guard Tours . . . 280
Guard tour tab . . . 281
Define tours points . . . 283
Tour Point tab . . . 284
What's next? . . . 285

Chapter 9. Monitor and control . . . 287

Overview . . . 288
Activity monitoring . . . 288
Activity Monitor shortcut menu . . . 292
Swipe and show option . . . 293
Alarm monitoring . . . 294
Using the Alarm Monitor form . . . 296
Column headings . . . 297
Alarm Monitor toolbar . . . 298
Alarm Monitor shortcut menu . . . 299
Client monitoring . . . 300
Client Monitor toolbar . . . 302
Client Monitor shortcut menu . . . 303
Controller monitoring . . . 303
Controller Monitor toolbar . . . 306
Search criteria and controller selection . . . 306
Controller Monitor shortcut menu . . . 307
Controller flash and controller preference configuration . . . 308
Digital input status . . . 309
Status tab . . . 309
Digital output status . . . 311
Status tab . . . 311
Graphics Console . . . 313
Graphics Preferences . . . 313
Symbol Editor . . . 314
Graphics Editor . . . 314
Graphics Console . . . 314
Manual control form . . . 314
Reader/Dgital Output tab . . . 315
Alarm/Digital Input tab . . . 317
Areas and Zones tab . . . 319
Mode tab . . . 320
Guard tour tab . . . 322
Transaction override . . . 323

Override tab . . . 323
What's next? . . . **325**

Chapter 10. Reports . . . 327

Overview . . . **328**
Designing reports . . . **329**
Template - defined . . . 329
Report templates window . . . 329
New template dialog . . . 329
Preview . . . 329
Print report . . . 330
Create default template . . . 330
Set as default template . . . 330
Export . . . 330
Delete template . . . 330
Tabs on report forms . . . **330**
General tab . . . 330
Fonts tab . . . 333
Filters tab . . . 333
Date Range tab . . . 336
Database tab . . . 337
Additional filters tab . . . 337
Expiration Date filter tab . . . 338
Return Date filter tab . . . 339
Guard tour tab . . . 339
Reader tab . . . 339
Areas tab . . . 339

Appendix A. Diagnostics and troubleshooting . . . 341

Overview . . . **342**
Auto update . . . **342**
Check for update . . . **344**
Diagnostics overview . . . **344**
Remote diagnostics . . . 345
Logfiles . . . **345**
LogFile tab . . . 346
Diagnostic settings . . . **347**
Settings tab . . . 347
When to enable debug messages for a diagnostic object . . . **348**
Diagnostic Viewer program . . . **351**
Menus . . . 352
Preferences . . . 354
Online help . . . **355**
Online help . . . 355
User Manual . . . 355

About the application . . . 355
Questions and answers . . . 356
Database . . . 356
Documentation . . . 358
Global configuration . . . 358
Networking . . . 360
Printers . . . 362
Readers . . . 362
Setup . . . 363
Setup: RAID Server . . . 365
Software . . . 368
Terminal services . . . 370
User questions . . . 371
Video . . . 373
Customer Support . . . 373
Appendix B. Certifications . . . 375
Overview . . . 376
UL certification . . . 376
Glossary . . . 377
Index . . . 385

Preface

This is the GE *Facility Commander Wnx User Manual*. This document includes an overview of the product and detailed instructions for configuration and administration functions.

Read these instructions and all ancillary documentation. Refer to *Related documentation on page xiv*. The most current versions of this and related documentation may be found on our Web site at www.ge-security.com.

Conventions used in this document

The following conventions are used in this document:

Bold	Menu items and buttons.
Italic	Emphasis of an instruction or point; special terms.
	File names, path names, windows, panes, tabs, fields, variables, and other GUI elements.
	Titles of books and various documents.
Blue italic	(Electronic version.) Hyperlinks to cross-references, related topics, and URL addresses.
`Monospace`	Text that displays on the computer screen.
	Programming or coding sequences.

Safety terms and symbols

These terms may appear in this manual:

CAUTION: *Cautions* identify conditions or practices that may result in damage to the equipment or other property.

WARNING: *Warnings* identify conditions or practices that could result in equipment damage or serious personal injury.

Navigating a PDF file

When Adobe Acrobat Reader opens your PDF file, use the tools to navigate through the document.

Element	Description
	Use the hand tool to navigate through the document. Position the hand over a linked area until the pointer changes to a pointing finger. Click the link to jump to the linked topic or page. Click to go back to the previous view. Click to go to the next view.
	Click to display a window that allows you to enter a word or phrase for which to search. Click **Search** and wait as Acrobat generates the results.
	Use this toolbar to navigate back and forth through the pages of the currently displayed document. Click to go back to the previous view. Click to go to the next view.
	Use this toolbar to resize the page view. You can use the zoom tool, use the page fit icons, zoom out incrementally, set a % of zoom, or zoom in incrementally.

Related documentation

For more information about FCWnx Editions and hardware that works with it, consult the following:

- *Facility Commander Wnx Installation Manual*
- *Credential Designer Manual*
- *Graphics Console Manual*
- *Installing Facility Commander Wnx in a Clustered Environment*
- *ACU Networked Intelligent Controllers User Guide*
- *Micro/5 Installation Guide*
- *Micro/PX-2000 and Micro/PXN-2000 Installation Guide*
- *Micro/PX-2000 and Micro/PXN/2000 Microcontroller Quick Installation Instructions*
- *M3000 Installation Manual*

These documents and others are included on the Documentation CD-ROM in *PDF* format. The CD is included in the media kit, shipped with your system. You must have Adobe Acrobat Reader installed on your computer to view PDF documents. For your convenience, a copy of the Adobe Acrobat Reader software is included on the CD.

Training sources

You may want to take advantage of the *XtremeLearning* library of convenient, comprehensive, and interactive Web-based training courses available through your GE Security business sales representatives.

Quick Setup guide

This section walks you through the basic steps needed to configure your system. It should be used in conjunction with the other chapters of this document or the online Help, if additional and specific information is required. **Not all forms are described here.**

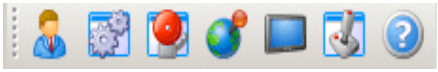
How to prepare for your configuration

Before you proceed, make sure that your peripheral system hardware is installed and running. This includes controllers, readers, modems, printers, and network lines. Refer to your ***Installation Manual***, documentation provided with your equipment from GE, or follow specific installation instructions for your brand of hardware.

How to configure a system in recommended sequential order, on page qs 2

Define preferences; on page qs 2
Define facilities; on page qs 2
Define clients; on page qs 2
Define permissions; on page qs 3
Define operators; on page qs 3
Define schedules:; on page qs 4
Configure devices:; on page qs 7
Create:; on page qs 14 (areas, intrusion zones, access rights, person records, credential records)
Back up your system; on page qs 18 (Professional and Enterprise systems, and database backups)

How to accomplish frequently performed tasks:

These tasks can be accessed by the icons on the Application Toolbar: 

Create Persons, on page qs 17
Monitor Activities, on page qs 26
View/Remove Alarms from the Alarm Monitor Form, on page qs 27
View Graphics Console, on page qs 27 (If your system is licensed for this feature, the following icon is available.)
View Video Console, on page qs 25 (If your system is licensed for this feature, the following icon is available.)
Manually Control DIs, DOs, Areas, Intrusion Zones, on page qs 26
Access Online Help

How to accomplish administrator tasks, on page qs 21

Configure Devices, on page qs 21
Configure Guard Tours, on page qs 21
Configure/Monitor Redundancy, on page qs 21
Create Controller Records:, on page qs 21
Create Credential Designs, on page qs 22
Create Access Rights, on page qs 22
Create Person Records, on page qs 22
Mass Updates, on page qs 23
Alarm Routing and Bumping, on page qs 23
Set Automatic Logoff Time, on page qs 23
Diagnostics, on page qs 24
Contact Customer Support, on page qs 24

How to accomplish operator tasks, on page qs 25

Arm/Disarm:, on page qs 25 (areas and intrusion zones)
View Video Console, on page qs 25
Manually Control DIs, DOs, Areas, Intrusion Zones, on page qs 26
Monitor Activities, on page qs 26
View Graphics Console, on page qs 27
View/Remove Alarms from the Alarm Monitor Form, on page qs 27
Create Reports, on page qs 27

How to configure a system in recommended sequential order

Table 1. Quick setup sequence

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
1. Define preferences	Administration/Preference (Refer to *Chapter 2, System preferences on page 24*.) (You must restart the FCWnx program for any changes to the Preference form to take effect.)Select a time interval for archiving your database. 1. Configure the number of seconds that elapse before your FCWnx system detects and advises you that your database is not accessible. 2. If you are using image badging, set the aspect ratio. 3. Set console alarm sounds. 4. Configure for line coloring for suspended credentials. 5. Enable T&A and APB if applicable for your system. 6. If this is a conversion or upgrade, consider selecting Enable unique and required Employee Number. 7. Select if you want to enable Grant Access On Duress. 8. Configure if you want Alarm E-mail Notification.
2. Define facilities	Policies & Places/Facility (Refer to *Define facilities; on page qs 47*.) 1. Click the add icon to begin a new record. 2. Enter a unique description in the **Description** field. This may be a building name or location.
3. Define clients	Administration/Client (Refer to *Identify and configure clients; on page qs 48*.) 1. Enter or edit a unique description for the client you are adding. If you do not enter a description, this field automatically populates with the PC Name selected on the Client tab. **Note:** Global Client Descriptions: We recommend that your client description include a meaningful name of the Global or Regional Database Server computer. When the description displays on the Client Monitor form, the Global and Regional Server are easily identifiable. 2. A facility option can be designated. 3. To select a PC name, click **Browse** to display a **Select Client** window. 4. Proceed to complete the remainder of the options according to your system, this client, and the guidelines in this manual. 5. Repeat these steps for each client that you are defining.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
4. Define permissions	Administration/Permission (Refer to *Create permissions; on page qs 58*.) 1. Click the add icon to begin a new record. 2. Enter a unique title for this record. This is a required field and accepts 64 characters. 3. Expand the Forms navigation tree to display the FCWnx forms. 4. Select a form and select one of the Actions to associate with the form and the permission you are creating. 5. Click **Save**. Notice that the icon has changed to the associated action granted to this permission.
5. Define operators	Administration/Operator (Refer to *Determine and create operators; on page qs 61*.) 1. A facility option can be designated. 2. Enter the Login ID associated with this operator record. 3. Enter the name of the operator. 4. Select a permission from the drop-down list associated with this operator. 5. Select a language from the drop-down list associated with this operator. 6. Using the guidelines in *Table 36*, complete the FCWnx Password Authentication grouping or remove the selection and complete the Active Directory Password Authentication.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
6. Define schedules: • Time schedules	 Schedules/Time Schedule (Refer to *Define time schedules; on page qs 68.*) 1. Click the add icon to begin a new record. 2. Enter a unique title for this record. This is a required field and accepts 64 characters. 3. A facility option can be designated. 4. Review the guidelines in *Table 39* and complete this tab similar to the following steps. 5. Create 5 intervals for the five days of the week, Monday through Friday from 8:00am (08:00) to 5:00pm (17:00). 6. Click **Save** before you exit this tab. **Note:** You need to assign this time schedule to a device such as a reader. Note the example below. **Example**: `BocaHQ Normal Workweek` would indicate a facility-specific time schedule, where `BocaHQ` refers to a geographic location. For example, you can create a time schedule that is active Monday through Friday 8:00 A.M. to 5:00 P.M. This particular time schedule (perhaps called `Normal Workweek`) can be applied to the Access Right for Permanent Employees and you may want to turn off alarm monitoring during those hours. 1. On the Reader form, select `Building 1 Lobby Door` reader record. 2. On the Functions Schedule tab of the Reader form, select a Door schedule entitled `BocaHQ Normal Workweek` from the drop-down list of Time schedules. 3. Select **Unlock**. 4. The result is that the selected reader unlocks the door based on the time schedule as configured for `BocaHQ Normal Workweek`.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• Event schedules	Schedules/Event Schedule (Refer to *Define event schedules; on page qs 71*.) 1. Click the add icon to begin a new record. 2. Enter a unique title for this record. This is a required field and accepts 64 characters. 3. A facility option can be designated. 4. Review *Table 41* and create an event using the guidelines listed. 5. Click **Save** before you exit this tab. **Note:** You need to assign this event schedule to a device such as a controller (see Controller form, Events tab) or a reader (see the Reader form, Reader Type Events tab). **Example**: `BocaHQ Weekend Begins` indicates a facility-specific event schedule, where `BocaHQ` refers to a geographic location. For example, you could create an event beginning each Friday at 6:00 P.M. that resets the APB status and the T&A status, and sets a reader to Credential and Keypad. Employees coming into the building after 6 P.M. on Friday are required to present their credential and then key in a PIN number to enter the building. Remember that an event stays in effect until another event occurs to change it. Therefore, in our example, a second event needs to be scheduled to change that reader back to Normal on Monday morning.
• Event notifier	Alarms & Events/Event Notifier (Refer to *Configure event notifier; on page qs 73*.) 1. Enter a unique title for this record. This is a required field and accepts 64 characters. 2. A facility option can be designated. 3. Review *Table 43* and assign alarms that are to trigger e-mail notifications. 4. Select one or both Transaction Type options. 5. Review *Table 44* and assign people to receive notification. 6. Review *Table 45* and format the e-mail message.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• Mode schedules	Schedules/Mode Schedule (Refer to *Define mode schedules; on page qs 77*.) 1. Click the add icon to begin a new record. 2. Enter a unique title for this record. This is a required field and accepts 64 characters. 3. A facility option can be designated. 4. Review the guidelines in *Table 47* and complete this tab. 5. Select the date 03/16/2006 from the calendar 'Date' control. 6. Click **Edit** in the 'Assigned Controllers' group box. 7. Select the controller ACU19588' from the controller list. 8. Enable the checkbox for Mode 7 from the Available Modes group box. 9. Click **Save** before you exit this tab. **Example modes:** **Normal**: This mode is day-of-the-week dependent and it is the default mode for the FCWnx system. The remaining modes are not day-of-the-week dependent. Both schedules and events can be defined in terms of modes. Sunday through Saturday configurations are only in effect in Normal mode. Next, you could define other modes such as: **Mode 1** as Half-Day Holiday **Mode 2** as Full-Day Holiday **Mode 3** might be Return to Normal (since modes do not end, another mode takes the active mode to another mode) ***For systems using ACU controllers, these additional Modes display:*** **Mode 4** **Mode 5** **Mode 6** **Mode 7** **Mode 8** **Note:** Mode schedules created on the Mode Schedule form display as schedule options on the Event Schedule form and Time Schedule form. You can change the label of your modes on the Preference form, Mode Labels tab. (You must restart the FCWnx program for any changes to the Preference form to take effect.)

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
7. Configure devices:	
• Controller	Security Devices/Controller (Refer to *Define controllers; on page qs 86*.) 1. Controller records can be created within FCWnx without having the controllers attached and configured. Additional device records can be configured after creating controller records. 2. Click the add icon to begin a new record. 3. The description of the controller should be unique and include where the controller is located and/or how it is used. For example: `1 - Building A2 North Telco Closet` could represent Controller 1 located in Building A2 North in the Telco Closet. This is a required field and accepts 64 characters. 4. A facility option can be assigned for your new controller record from the Facility drop-down list. All devices, such as readers, alarms, and DIs added with the controller belong to the same facility as the controller. If you edit the Facility option on an existing controller record, a messages displays, Do other devices change to the same facility as the controller? If you select **Yes**, all associated devices and alarms change to the newly assigned facility. If you select **No**, the facility change takes place only on the controller record. The default of Ignore Facilities is assigned if no other selection is made. 5. This form contains the basic information about the controller. When configuring a controller, COMPLETE THE DEFINITION TAB FIRST. Other tabs display, depending on the selections you make on this tab. 6. Review the guidelines and complete the fields on this form according to the controller type that you are configuring.
• Reader	Security Devices/Reader (Refer to *Define readers; on page qs 112*.) 1. When a controller record is created, reader records are also created. The number of records depends on the controller that you configure and the reader modules that the controller contains. 2. When reader records are created, the default description is in the format: ***Micro controller***: `mmmm-b-pp` ***ACU controller***: `mmmmm-na-pp` where `mmmm` or `mmmmm` represents the controller number to which this reader is associated, `b` represents the module number (`n` represents the port number and `a` represents port address), and `pp` represents the reader number. It is recommended that you keep the `mmmm-b-pp` prefix in each reader displayed to aid in locating the reader points on the physical hardware. This field accepts a maximum of 64 characters. 3. The reader is automatically enabled as **Online** and **Active**, and configured to accept credential transactions when a reader record is created. 4. A facility option can be designated. 5. Review the guidelines and complete the tabs and fields on this form according to the reader type that you are configuring.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• Digital Input	Security Devices/Digital Input (Refer to *Define digital inputs; on page qs 133*.) 1. When the records are created, the default description is in the format: ***Micro controller***: mmmm-b-pp ***ACU controller***: mmmmm-bb-pp where mmmm or mmmmm represents the controller number to which this digital input is associated, b represents the module number, and pp represents the point or device number. It is recommended that you keep the mmmm-b-pp prefix in each digital input displayed to aid in locating the alarm points on the physical hardware. This field accepts a maximum of 64 characters. 2. A facility option can be designated. The same facility is assigned for all devices associated with the controller when a controller is created. **Note:** Be very careful when assigning the facility of a DI to a different facility than the controller. You can create an undesired result if you do not fully understand facility assignment. 3. Review the guidelines and complete the tabs and fields on this form. 4. You cannot delete digital input records. The number of digital inputs is based on the controller you set up and modules that the controller contains.
• Digital Output	Security Devices/Digital Output (Refer to *Define digital outputs; on page qs 143*.) 1. When DO records are created, the default description is in the format: ***Micro controller***: mmmm-b-pp ***ACU controller***: mmmmm-bb-pp where mmmm or mmmmm represents the controller number to which this digital output is associated, b represents the module number, and pp represents the point or device number. It is recommended that you keep the mmm-b-pp prefix in each digital output description displayed to aid in locating the alarm points on the physical hardware. This is a required field and accepts 64 characters. **Note:** Be very careful when assigning the facility of a digital output to a different facility than the controller. You can create an undesired result if you do not fully understand facility assignment. 2. Review the guidelines and complete the tabs and fields on this form.
• Digital Output Group	Security Devices/Digital Output Group (Refer to *Define digital output groups; on page qs 149*.) 1. Enter a unique description for this record. This is a required field and accepts 64 characters. 2. A facility option can be designated. **Note:** If you assign DOs that belong to a different facility, you may be creating an undesired result; not all DOs are visible under certain facilities. 3. Review the guidelines and complete the tabs and fields on this form.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• Alarm Instruction	Alarms & Events/Alarm Instruction (Refer to *Define instructions; on page qs 151*.) 1. The instructions should belong to the same facility as the transaction with which they are associated. 2. Assign a number to the instruction records. The range for instructions is 0 to 254 for a total of 255 instructions. 3. Enter the text you want to display when the associated transaction occurs. The instruction can be 1 to 500 alphanumeric characters in length.

• Alarm responses	Alarms & Events/Response (Refer to *Define alarm responses; on page qs 152*.)
	1. A facility option can be designated.
	2. This form allows you to create a list of frequently used, predefined responses to an alarm, and reduces the need to type an entry. The response entries that you create display as selections on the Alarm Monitor form.
	
	Complete the field on this tab.
	
	Examples:
	`Police are on their way.`
	`Maintenance is cleaning up.`
	
	3. Click **Save** between each entry and before you exit.

• Alarm·	Alarms & Events/Alarm (Refer to *Define alarms; on page qs 153*.) 1. When you set up your controller, some alarms are automatically set up for you. The Alarm form is used to modify an alarm record. However, alarms for digital inputs must be set up manually using the Digital Input form. 2. When the records are created, the default description is in the format: ***Micro controller***: `mmmm-b-pp` ***ACU controller***: `mmmmm-bb-pp` where `mmmm` or `mmmmm` represents the controller number to which this alarm is associated, `b` represents the module number, and `pp` represents the point or device number. It is recommended that you keep the mmmm-b-pp prefix in each alarm displayed to aid in locating the alarm points on the physical hardware. 3. A facility option can be designated. 4. Review the guidelines and complete the tabs and fields on this form. 5. With the exception of external alarms, you cannot delete alarm records. Alarms are managed by the owner of the alarm record. The alarm owner can be an API, module, CCTV Interface, digital input, camera, DVMR, controller, or reader. For an alarm to display on the Alarm Monitor form, you can either select the Monitor field on the Alarm form or schedule the alarm to be monitored. When set to be monitored, the alarm displays and changes to an alarm condition.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• Alarm Group	Alarms & Events/Alarm Group (Refer to *Define alarm groups; on page qs 167*.) 1. Alarm groups provide two things: 1) a convenient way of scheduling many alarms at once, and 2) a means of disabling monitoring in many alarms from a keypad reader. When a controller record is created, 16 alarm groups are also created. 2. The description of the alarm group should be unique. When the records are created, the default description includes the controller to which this alarm group is associated and the number of the alarm group, for example `0001 Group 1`, which represents alarm group one on controller one. All alarms are automatically assigned alarm group 0. To change this description, enter over the existing text and save the record. It is recommended that you keep the alarm group number and controller number prefix to aid in locating the alarm points on the physical hardware. This is a required field and accepts 64 characters. **Note:** Be very careful when assigning the facility of an alarm group to a different facility than the controller. You can create an undesired result if you do not fully understand facility assignment. The default of Ignore Facilities is assigned if no other selection is made. 3. You cannot delete an alarm group record. Alarm groups are owned by the associated controller record. Use the Alarm Group form to assign events or schedules to alarm groups. 4. Review the guidelines and complete the tabs and fields on this form.
• Elevators	Elevators/Elevator (Refer to *Define elevators; on page qs 178*.) 1. Decide which method of elevator control you want to use. The methods of implementing elevator control: - No floor tracking method - Floor tracking by input - Floor tracking by keypad 2. Depending on the type of controller used in your system for this elevator, your configuration steps vary. 3. Review the guidelines and complete the tabs and fields on this form.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	Application Group Menu/Application Form
	Configuring elevator control using a micro controller: 1. Create Floor records and floor numbers to be used with the elevators. 2. Configure the elevator records. You use the Elevator form to configure elevator records. Here, you select: - Method of elevator control - Readers (Verify that readers are active on the Reader form.) - Floors You can set a reader for elevator control using this form only. When you return to the Reader form and display a corresponding reader record, you notice that all other options in the Logical Type section are not available. 3. The type of modules you want to use in your dedicated controller (DO only or a combination of DO and DI modules) determines the number of floors available. After installing the CPU module, the Power/Communication module, and at least one reader module, there are four slots available that can be used for digital input modules or a combination of digital input modules and digital output modules. The type of modules you want to use in your dedicated controller (DO only or a combination of DO and DI modules) determines the number of floors available. After installing the CPU module, the Power/Communication module, and at least one reader module, there are four slots available that can be used for digital input modules or a combination of digital input modules and digital output modules. **Configuring elevator control using an ACU controller:** 1. Create a Controller record and assign the Controller type as an Elevator Controller. This controller cannot manage any thing else. It can only manage elevators. 2. Create Floor records and floor numbers to be used with the elevators. 3. Create Area records on the Area form. Assign readers to the Area. See Area form, Reader tab. **Note:** The Area must also be assigned to an access right for a person to gain access to that reader. 4. Now, you can configure the elevator records. You use the Elevator form to configure elevator records. Here, you select: - Method of elevator control - Readers (You can set a reader for elevator control using this form only. When you return to the Reader form and display a corresponding reader record, you notice that all other options in the Logical Type section are not available.) - Floors to Area association **Note:** Elevator control does not span controllers. This means the reader, digital outputs, and digital inputs (if applicable) must be on the same controller.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• DVRs·	Security Devices/Digital Video Recorder (DVR) (Refer to *Define digital video recorders; on page qs 188*.) The following order is recommended for configuration of a DVR system for this application: 1. Set up operators and permissions. 2. Configure the DVR. Refer to the manuals received with your DVR for hardware setup and installation specifics. 3. Configure DVR devices. DVR devices can be hosted on the Server computer for this application and/or client workstations. The actual number of DVR devices hosted on each Server computer may vary. Distributing DVR hosting across multiple computers may be required for optimizing system performance in your specific application. **Note:** When you change a facility designation, it changes the facility for the DVR only. You receive a message displaying, 'Do other devices change to the same facility as the digital video recorder?' Select Yes or No. If you select Yes, the alarm record and camera records change as well. You need to verify the accuracy of the revised records. 4. Create preset records. 5. Configure cameras. 6. Set up event triggers. 7. OPTIONAL: Set up alarm graphics.
• Cameras	Security Devices/Camera Presets (Refer to *Define camera presets; on page qs 197*.) 1. After setup and programming of your DVR devices to meet your monitoring requirements, you need to parallel the settings and positions in the configurations in this application. This form allows you to edit or enter a description and number for a camera preset. Presets must be defined before you can assign them to a camera on the Presets tab of the Camera form. **Note:** This option is available for PTZ cameras only. 2. A facility option can be designated. 3. In the text field, enter a number within the range of 1 to 32. This number only references the preset number programmed and stored in a camera with PTZ capability. 4. Click **Save**. This preset is now available for assignment to a specific camera.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• Camera Presets	Security Devices/Camera (Refer to *Define cameras; on page qs 198*.) 1. Use this form to edit camera preferences. Camera records are automatically created when a DVR is defined on the Digital Video Recorder form. The camera records display in the format `00X-0X` Camera where 00X is the DVR address and 0X is the camera number. It is recommended that you keep the number prefix to aid in locating the cameras. **Note:** Device description updates are communicated to corresponding alarms, DIs, and DOs. In order for changes to migrate to additional form windows that may be open at the time of a change, the open windows should be closed and then re-opened before the new device description is able to be seen. 2. A facility option can be designated. 3. Review the guidelines and complete the tabs and fields on this form according to the camera type that you are configuring.
• Event Triggers·	Alarms & Events/Event Triggers (Refer to *Define event triggers; on page qs 201*.) 1. An event consists of a camera and either readers, alarms, or zone activity. A trigger causes an event or program routine to be executed, depending on what options you set on the tabs of this form. Intrusion Zone activities can also trigger an event. **Example:** A camera begins recording in response to an invalid credential transaction. An alarm is recorded in response to the credential transaction. 2. Enter a description that conveys specific information relating to a physical location, camera, reader, or state, such as: `Front Door Inv Credential Camera 1 Reader 1` You can assign a reader alarm or camera alarm or both and this can be reflected in the description of the Trigger. 3. Review the guidelines and complete the tabs and fields on this form that become the source for this Event Trigger. 4. When tagged events are identified by a search, retrieved, and viewed, the video playback begins at the start of the event and continues playing until you elect to discontinue the playback.
• Flash/Download firmware to the controller	Monitors & Controls/Controller Monitor (Refer to *Controller monitoring; on page qs 303*.) 1. Right-click on the Controller Monitor to display a shortcut menu. Select **Flash Controller(s)** to download the latest firmware to the selected controller. When the Controller Flash & Controller Preference Configuration dialog box displays, click **Start Flashing Controller(s)**. This option starts flashing the selected controller(s) with the latest firmware. A dialog box displays, asking you to verify your request. 2. The flashing process takes approximately two to three minutes; it varies with the amount of data that needs to be transmitted to the controller.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• Put controller online and monitor communications	Monitors & Controls/Controller Monitor (Refer to *Controller monitoring; on page qs 303*.) 1. Right-click on the Controller Monitor to display a shortcut menu. • Select **Change State** to put the controller online. • Click **Download Database** each time a controller is set to online, in order to download the database to the controller. • Anytime a new controller database is required, click **Download Database.** • Click **Download Credentials** to download credential records for the selected controller.
8. Create:	
• Areas	Places & Policies/Area (Refer to *Define areas; on page qs 220*.) **Note:** The Area form is enabled for systems licensed and configured with ACU controllers. Use this form to configure secure Areas. Your system supports up to 8,192 Areas. Complete the steps in the order presented. 1. You must first configure ACU controllers. (Reader records are automatically created when you configure an ACU controller.) The controllers must be connected and online to arm/disarm if the Area spans controllers. An Area can contain alarm points, entry and exit points (readers), and digital outputs (relays). Areas can be local (does not span controllers) or global (spans controllers). 2. Create Areas. The intended application is suited for arming and disarming secure Areas from outside or inside of the monitored and secured Areas. Click the add icon to begin a new record. 3. Assign devices to an Area in order to use the device functionality. The defined secure Areas have the ability to be armed and disarmed through access control by using a credential and keypad reader, or manual control. 4. The Area form provides the ability to define Areas for each controller that consists of the following: • Keypad Disarm and arm • Time Schedules • *SCIF* (Sensitive Compartmentalized Information Facility) Workstations • Readers • Alarms • APB • Digital outputs 5. Review the guidelines and complete the tabs and fields on this form. 6. When an Area record is updated and saved, all controllers are notified of the new configuration.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
	Before you can delete an Area record: 1. Access rights must be removed. 2. Devices associated with this Area must be removed. This Area must be removed from the Advanced tab of the Person form as assigned for Arm/Disarm.
• Intrusion zones	 Places & Policies/Intrusion Zone (Refer to *Overview - intrusion zones; on page qs 229*.) The Intrusion Zone form is required for creating a relation between readers, alarm inputs, the Arm/Disarm Intrusion point, and the arm/disarm DO. Perform the following: 1. Define an Intrusion Zone with a description and facility assignment. 2. Select a controller selection to establish the zone source and its intrusion points. 3. Filtered on the operator's active facilities, assign the following intrusion zone components: arm/disarm DO, arm/disarm Intrusion DI, readers, and alarms. • Arm/Disarm Intrusion DI: This is a single record selection from a drop-down list filtered by active facility that consists of all available Arm/Disarm Intrusion points for the controller. Only the DIs that have not been assigned are available. • Alarm Points: This is a multi-record selection from an assignment dialog filtered by active facility that consists of available controller alarm points not already assigned to a zone. (24/7 4-State Supervision rules apply regardless of the Armed/Disarmed state of the zone.) • Readers: This is a multi-record selection from an assignment dialog filtered by active facility that consists of available readers not already assigned to a zone. (Readers must be active and nonelevator type.) • A zone can be configured to contain the following: -An Arm/Disarm Intrusion Point with Alarm Points only and no Readers. -An Arm/Disarm Intrusion Point with Readers only and no Alarm Points. -Alarm Points and Readers only with no Arm/Disarm Intrusion Point. -Readers only. **Note**: An arm/disarm DO can be assigned for any of these. 4. A Status tab provides the ability to request status of the zone and each of its associated points, as follows. • Zone: Armed or Disarmed • Arm/Disarm Intrusion DI: Active/Inactive/Trouble • Readers: Online or offline • Alarm Points: Monitored Off/Monitored On

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
	To complete the Intrusion Zone functionality, you also need to complete the Access Right form - Intrusion Zones Tab. 1. The Intrusion Zones tab of the Access Right form allows you to assign multiple intrusion zones using an assignment dialog. • Only credential holders with an Intrusion Zone assigned on the Access Right form are able to arm and disarm zones using any of the credential/keypad readers within a zone. • When a zone is armed, all readers within the zone go offline, and normal access rights do not gain access into the area. • When a zone is disarmed, all readers within the zone go online and normal access rights gain access into the area. If schedules were assigned, then the reader follows the schedule. **Note:** If you expect to arm/disarm by using any one of the readers within a zone: • That reader must be assigned on the Access Right tab of the Access Right form and be an assigned reader in the Intrusion Zone listed on the Intrusion Zones tab. OR • Individually created access rights must be assigned to the person that arms/disarms the Intrusion Zone. (One right allows access to the readers and another right allows access to the Intrusion Zone.)
• Access rights, Departments	Places & Policies/Access Right (Refer to *Define access rights; on page qs 238*.) Use this form to create access rights to define where (with readers) and when (with time schedules) an individual can gain entry. ***(For systems using Micro controllers)*** • Assign readers to the access right using the Access Right tab. • Define which floors a person can access and what digital output groups a person can trigger with a valid credential: **Note:** Floors and elevators are assigned to an access right. • Intrusion Zones can be assigned to an access right, allowing the ability to arm/disarm (with a reader) the zone and access to a particular zone. ***(For systems using ACU controllers)*** • For ACU controller readers, assign the readers to an Area first. Then, assign the Area to the access right using the Area tab. • Assign Areas to an access right and then, assign a time schedule and dates to the Area access right. 1. Review the guidelines and complete the tabs and fields on this form according to the type of controllers in your system. 2. Following the creation of access rights, create departments. 3. Now, you are able to create person records and assign access rights and departments to the person records. 4. If your company is using credentials, you may want to capture an image and design a credential that incorporates that image.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
• Persons	Personnel/Person (Refer to *Define persons; on page qs 247*.) 1. Click the add icon to begin a new record. Create a record of an employee's personal information. Only Last Name, Personnel Type, and Employee Number are required fields. 2. Review the guidelines and complete the tabs and fields on this form. If your company is using credentials, you may want to capture an image and design a credential that incorporates that image. 1. Select the Photo tab on the Person form. 2. Select ONE of the records in the Record List. 3. Click **Capture Image/Signature** to capture a new image. Based on the input device you previously selected, the proper interface window displays for adjusting, capturing, and loading a new image. 4. Adjust, then **Save** the adjusted settings. 5. Click **Capture Photo** to capture the new image. Once the photo is taken, the Image Enhancement dialog box displays. **Note:** Refer to the Image Capture Application Help system for additional specific details of this application.
• Credential	Credentials/Credential (Refer to *Define credentials; on page qs 262*.) To create your own simple credential design: 1. Click the add icon to begin a new record, and enter a unique Description, then click **Save**. The **Edit Credential Design** button is now enabled. 2. Assign a facility. Review the guidelines and complete the tab on this form. 3. Click **Edit Credential Design** to run the Credential Design application. 4. Select **New** from Imaging File menu. 5. Draw a shape in your design window the size of your credential. 6. For a background color, select **Edit**, **Background**, then select a color from the Color dialog that displays. 7. Add one or several bitmaps inside the credential design preferences. 8. Add one or several text boxes. 9. Move or resize the photo and text as desired. 10. Click **Save**.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
9. Back up your system	Refer to the application *installation Manual* for detailed instructions for all types of backups. **This list assists in backing up a Professional system.** 1. Back up the entire Facility Commander Wnx Edition folder. If you purchased your system from GE, your system contains a CD-RW drive acceptable for backup purposes. Copy the Facility Commander Wnx Edition folder to your backup media. 2. To back up your Facility Commander Wnx Edition databases, custom stored procedures or triggers added to the Facility Commander Wnx Edition databases need to be removed. You can re-create custom procedures or triggers after restoring the database files. • Create a folder on your system where the backup files are to be stored. • Click **Start**, **Programs**, **FCWnx**, then **FCWnx Maintenance Utility**. • If this utility is not found in the Start menu, then go to the Facility Commander Wnx Edition directory and double-click the file: Maintenance.exe. • Click **Backup**. Accept the default Login of 'sa' and enter the Password for sa. The default password assigned for the 'sa' user was `master`. • Navigate to the drive and directory folder on your system where the backup files are to be stored. Double-click to open the Destination folder. • Holding down the left mouse button, drag and drop the destination folder onto each of the database fields. The .BAK files in each field are automatically named, to include the directory path, file name, date, and time. If you choose not to back up any of the three databases, clear the check box at the end of that field. If the check box is selected but no destination is entered in the database field, backup of that database file does not occur. • Click **Backup**. The backup process begins. When then backup is complete, a dialog box displays a message verifying the successful backup of the chosen databases. • Click **OK**. Exit the Maintenance window. 3. Back up Designs, Graphics, Images, Signatures, and Videos folder. You can use any backup program you want and any media such as tape, zip disks, CD, or a network folder. The size of the files in the folder you want to back up are a determining factor of which media to use.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	Application Group Menu/Application Form
	This list assists in backing up an Enterprise system. **Note:** Using SQL Server Management Studio, backups can be scheduled so that you do not have to remember to back up your databases. Since this application does not contain a backup option, you can use any method you like to back up the data. You should keep two backups of the Server computer, as follows: 1. Data backup • Three databases (Refer to instructions in the following cell of this table.) • Externals • Images • Signatures • Graphics • Designs • Video You should back up this data often since it changes so frequently. We recommend that you create a backup at least every week. 2. Back up entire Facility Commander Wnx Edition installation. • ALWAYS MAINTAIN A CURRENT BACKUP. Should you have any problems with your system, you can always restore your backup. This includes your database as well as your files. • If you purchased your system from GE, then your system contains a CD-RW drive acceptable for backup purposes. • In Microsoft Windows Explorer, navigate to the Facility Commander Wnx Edition program folder. Copy the Facility Commander Wnx Edition folder to your backup media.

Table 1. Quick setup sequence (continued)

Element	Description
Task and sequence:	**Application Group Menu/Application Form**
	This list assists in backing up databases in Microsoft SQL Server 2005. **Note:** Although there are other methods, we have included the following steps as a guide to assist you in performing one type of backup. 1. From your Start men, navigate to **Microsoft SQL Server 2005 Server, SQL Server Management Studio**. At the Connect to Server window, verify that the Login and Password are correct, and then click **Connect**. 2. Open the Databases folder. 3. Right-click one of the databases and select **Tasks**, then **Back up** from the shortcut menu. 4. When the Backup Database box displays, select **Full**. In the Name field, you can keep the default or choose a different name. 5. Under Destination, choose **Disk** or **Tape**. 6. Edit the file path name as appropriate for the folder that you have created to receive the database. Do not change the database name. Click **OK**. 7. In the Select a page pane, click **Options**. In the Options page, select either **Overwrite all existing backup sets** or **Append to the existing backup set**. We recommend that you append to the file. 8. We recommend that you select **Verify backup** when finished. Click **OK** to start the backup. 9. Click **OK** when the 'Backup operation has been completed successfully' window displays. 10. Repeat these steps for each of the three FCWnx databases.

How to accomplish administrator tasks

Table 2. Administrator tasks

Element	Description
Create Controller Records: • Direct-Connect Controller Record • Dial-up Controller Record	Refer to *Define controllers; on page qs 86*. Additional device records can be configured after creating controller records. 1. Click **Security Devices** group. 2. Click **Controller** icon. 3. Select connection type as **Direct** on the Definition tab. 4. Complete all applicable fields and enabled tabs according to the type of controller that you are configuring. 1. Click **Security Devices** group. 2. Click **Controller** icon. 3. Select connection type as **Dialup** on the Definition tab. 4. Complete the **Settings to Reach Host** tab. 5. Complete the **Settings to Reach Controller** tab.
Configure Devices	Refer to *Device configuration; on page qs 84*. Follow the recommended order for completion of device configuration: 1. Click **Security Devices** group. 2. Click the icon and complete the form that corresponds to the device that you are configuring.
Configure Guard Tours	Refer to *Guard tours; on page qs 279*. 1. Click **Guard Tours** group. 2. Click **Guard Tour** icon. 3. Configure the specifics of this tour by completing the elements displayed on the form.
Configure/Monitor Redundancy	Refer to *Client redundancy overview; on page qs 56*. Although devices like the controller are designed to run without the host software running for days, eventually memory is going to be filled up at the controller end. The redundancy feature in FCWnx is designed to address this condition. Clients can be configured to be backed up by other clients so that, in case of the default hosting client (called the primary client) being disabled, one of the backup clients takes over all its devices. This is designed to work automatically without any operator intervention so the system continues to work efficiently. 1. Review *Table 30 on page 56*. 2. Click **Administration** group. 3. Click **Client** icon. 4. Click the **Backup Clients** tab and assign backup clients. 5. Click **Monitors & Controls** group. 6. Click the **Client Monitor** icon. 7. Monitor clients on the **Client Monitor** form.

Table 2. Administrator tasks (continued)

Element	Description
Create Credential Designs	Refer to *Design credentials; on page qs 259*. 1. Click **Credentials** group. 2. Click **Credential Design** icon. 3. Click the add icon to begin a new record, and enter a unique Description, then click **Save**. The **Edit Credential Design** button is now enabled. 4. Click **Edit Credential Design** to run the Credential Design application. 5. Select **New** from Imaging File menu. 6. Proceed to design your credential. Click **Save**.
Create Access Rights	Refer to *Define access rights; on page qs 238*. 1. Click **Places & Policies** group. 2. Click **Access Right** icon. 3. Review the guidelines and complete the tabs and fields on this form according to the type of controllers in your system. 4. Following the creation of access rights, create departments. 5. Now, you are able to create person records and assign access rights and departments to the person records.
Create Person Records	Refer to *Define persons; on page qs 247*. 1. Click **Personnel** group. 2. Click **Person** icon. 3. Create a record of an employee's personal information. Only Last Name, Personnel Type, and Employee Number are required fields. If your company is using credentials, you may want to capture an image and design a credential that incorporates that image. 1. Select the **Photo** tab on the Person form. 2. Select ONE of the records in the Record List. 3. Click **Capture Image/Signature** to capture a new image. Based on the input device you previously selected, the proper interface window displays for adjusting, capturing, and loading a new image. 4. Adjust, then **Save** the adjusted settings. 5. Click **Capture Photo** to capture the new image. Once the photo is taken, the Image Enhancement dialog box displays. 6. Refer to the Image Capture Application Help system for additional specific details of this application.

Table 2. Administrator tasks (continued)

Element	Description
Mass Updates	Refer to *Mass update; on page qs 268*. 1. Open a blank form. Click **Search** to display a list of existing records. We recommend entering search criteria to narrow your search results to only records that are to be updated. **Note:** If there are no records, Mass Update is not available. 2. Right-click to display a shortcut menu to related forms. To enable the Mass Update mode, select **Mass Update** from the shortcut menu. 3. Note the change in the appearance of the form. ONLY those fields or dialog boxes that are available for mass update changes are now enabled and blank. Refer to *Conditions of mass update; on page qs 269*. 4. Select the records you want to adjust from the list box on the right. 5. Make the required adjustment to the form. 6. Click **Save**. The update of records begins immediately. A window displays with a progress bar, indicating the update progress. 7. Click **Abort** if you want to stop the update in progress. **Note:** You cannot close a form during the Mass Update process. 8. Right-click shortcut menu navigation is unavailable when you are in Mass Update mode. 9. If you have changed any preference but did not Save, a message reminds you to discard or save your changes. 10. Smaller batch updates are recommended to prevent performance issues during a mass update. 11. A Mass Update Complete dialog box displays, indicating completion or failure. 12. When mass updates are processed to an access right, a log file is generated and a View Results key displays in the dialog box. Click to view the completion log. We recommend that you rename and save this file to another location for reference purposes. Renaming the log prevents an overwrite. 13. When the process is complete, a Mass Update Complete dialog message displays. 14. Right-click and select **Mass Update** from the shortcut menu to disable and exit Mass Update mode. The records refresh at this point. **Note:** Updates display in the list box to the right.
Alarm Routing and Bumping	Refer to *Configure alarm routing and bumping; on page qs 172*. 1. Click **Alarms & Events** group. 2. Click **Alarm Routing and Bumping** icon. 3. Assign Client groups for Routing and a frequency option. 4. Assign Client groups for Bumping and a frequency option. 5. Follow guidelines to complete the form.
Set Automatic Logoff Time	Refer to *Table 28 on page 50*. 1. Click **Administration** group. 2. Click **Client** icon. 3. Set Auto logoff **Minutes**.

Table 2. Administrator tasks (continued)

Element	Description
Diagnostics	Refer to *Diagnostics overview; on page qs 344*. 1. Click **Diagnostics** group. 2. Click **Diagnostic Setting** icon. 3. Select items from the list box on the right windowpane that you want to monitor using the **Diagnostic Viewer** program. 4. Select **Enable debug messages**. **Note:** Use this form with care. The more items you turn on for monitoring, the more your system performance is affected. This is even more important when monitoring port, communications, or controller items. 5. Click **Diagnostics** group. 6. Click **Diagnostic Viewer** icon to open the Diagnostic Viewer program. The activities of your selected component are displayed.
Contact Customer Support	Refer to *Customer Support; on page qs 373*. 1. If you require assistance, first contact your local Business Partner. 2. To contact GE Security, use the following numbers and addresses: **Telephone**: United States: 1-888-GE SECURITY (1-888-437-3287) Asia: 852-2907-8108 Australia: 61-3-9259-4700 Europe: 48-58-326-22-40 Latin America: 305-593-4301 Be ready at the equipment before calling. **FAX**: 561 998 6224 **Web site**: www.ge-security.com **Support**: rs-bctsupport@ge.com **Documentation**: bctdocs@ge.com 3. Check the Web site periodically for timely information on all GE Security products.

How to accomplish operator tasks

Table 3. Operator tasks

Element	Description
Arm/Disarm: • Area	Refer to *Arm/Disarm an area by access right; on page qs 228*. 1. Click **Policies & Places** group. 2. Click **Access Right** icon. 3. Assign the **Area** to this access right. 4. Swipe the credential at any of the credential/keypad readers within an Area. OR 1. Click **Manual Control** icon. 2. Click **Area and Zones** tab and click **Arm** or **Disarm**.
• Intrusion Zone	Refer to *Arm/disarm an intrusion zone; on page qs 234*. 1. Click **Policies & Places** group. 2. Click **Access Right** icon. 3. Assign the **Intrusion Zone** to this access right. 4. To Arm: = * 1 # followed by a valid credential read. To Disarm: * 0 # followed by a valid credential read. OR 1. Click **Manual Control** icon. 2. Click **Area and Zones** tab and click **Arm** or **Disarm**.
View Video Console	Refer to *Video windows; on page qs 196*. 1. Click **Monitors & Controls** group. 2. Click **Video Console** icon. **Note:** If an alarm is generated with associated video, the Video Console icon displays in the Alarm Monitor and you can access Video Console by clicking on it. 3. Capabilities include: • Live video can be sent to multiple video consoles. • Video Console can be automatically launched, with live and recorded video, when an alarm event occurs. • Multiple video streams from multiple DVRs can be sent to the Video Console. • Multiple camera views allow an operator to select two-up, four-up, nine-up, or sixteen-up views. • Recorded video is available to multiple Video Consoles. • A single frame of recorded video can be viewed. • Video can be searched by date and time, play position, or token. • If the camera has PTZ (Pan/Tilt/Zoom) capabilities, you can use the mouse to control the camera movement. (This feature is not available if another operator has control of the camera.)

Table 3. Operator tasks (continued)

Element	Description
Manually Control DIs, DOs, Areas, Intrusion Zones	Refer to *Manual control form; on page qs 314*. 1. Click **Monitors & Controls** group. 2. Click **Manual Control** icon. The Manual Control form allows the operator to perform the following, depending on the operator's facilities and permissions: • Manually lock/unlock doors. • Turn on/off DO (digital output). • Monitor on/off alarms and alarm groups. • Enable/disable DI inputs. • Arm/disarm Areas and Intrusion Zones. • Change the mode of a controller. • Start/stop a Guard Tour. 3. Refer to the individual tab controls for additional information regarding the available functions.
Monitor Activities	Refer to *Monitor and control; on page qs 287*. 1. Click **Monitors & Controls** group. 2. Click the icon of the appropriate monitor: • Activity Monitor displays credential transactions. • Alarm Monitor displays alarm activities. • Client Monitor displays client information. • Controller Monitor displays controller information. 3. The options on the monitor toolbar vary with the monitor that is displaying. **All Monitors**: These forms are outside of the main application window. Right-click on the form window to display a shortcut menu of options. The window can be independently moved anywhere on the desktop. This feature has been incorporated to facilitate multi-window management for both single and multi-monitor workstation configurations.

Table 3. Operator tasks (continued)

Element	Description
View Graphics Console	Refer to *Graphics Console; on page qs 313*. **Note:** This option is available only if you are licensed for Graphics Console. This option and related features are covered in detail in the ***Graphics Console User Manual***. 1. Click **Monitors & Controls** group. 2. Click **Graphics Console** icon. 3. The Graphics Console option opens the application that allows you to view the maps of your facility that were created in the Graphics Map Editor. These maps point out the location and type of incoming alarms as they occur, such as a door held open alarm. Operators can issue commands and launch applications, such as locking and unlocking doors. 4. Graphics maps are organized according to their facility. The items that display in the navigation pane are determined by an operator's permission levels and context. Initially the facilities are collapsed. Expand a facility. Even if the facility containing that map is collapsed, the icon is red, which indicates that a map in that facility is in alarm. Click on a map to open it. You can also open a map from the Menu bar, by selecting File, Open. The corresponding facility in the Navigation pane expands accordingly. 5. The Graphics Monitor is divided by a split bar with split pointers, which can be used to change the size of the window.
View/Remove Alarms from the Alarm Monitor Form	Refer to *Alarm monitoring; on page qs 294*. 1. Click **Monitors & Controls** group. 2. Click the **Alarm Monitor** icon to display the monitor. Alarm messages display. 3. Select one or more alarm messages that you want to remove. 4. Click the Alarm Monitor toolbar icon to **Purge All** and remove all messages or **Purge Individual** to remove one alarm message. **All Monitors**: These forms are outside of the main application window. Right-click on the form window to display a shortcut menu of options. The window can be independently moved anywhere on the desktop. This feature has been incorporated to facilitate multi-window management for both single and multi-monitor workstation configurations.
Create Reports	Refer to *Designing reports; on page qs 329*. 1. Click **Reports** on the menu bar. 2. From the drop-down menu, select the type of report that you want to create. 3. Select a template or create a new template. 4. The options on a tab and drop-down options in a field vary depending on the type of report you are creating.

Chapter 1 Introduction

Welcome to Facility Commander Wnx Edition 7.0. This manual provides information for system administrators to configure and use a Facility Commander Wnx Edition system. This chapter provides an overview of FCWnx.

Note: Throughout this document, reference to Facility Commander Wnx Edition is represented as 'FCWnx' in text content.

In this chapter:

Overview 2
Product contents 3
Before you begin configuration 3
Licensing 3
Client/server architecture 4
Facility Commander Wnx edition services 4
Simple File Sharing on WinXP 5
Configuring firewall and DCOM settings 6
Navigation 8
Creating, editing, and deleting records 20

Overview

Facility Commander Wnx Edition is a multi-edition offering of Integrated Secure Management Software designed on Microsoft Windows technology.

FCWnx Edition provides full security management functions including access control, intrusion zone control, alarm monitoring, alarm graphics console, reporting, photo ID badging, and CCTV interfaces as standard features. FCWnx also offers integrated system options that include digital video surveillance and Web-based reporting.

FCWnx Global configuration: SQL Server 2000 Replication *services* are used to distribute the data from a Global Server to Regional Servers. FCWnx installation creates the necessary components for a replicated system, configuring publications and subscriptions at each level. The Global Database Server is the 'main' FCWnx database server. The term 'main' as used in this context means that the Global Database Server acts as a hub for all replication activity. This Global Server hosts a Distributor whose role is to store history and miscellaneous information about merge replication. When the Distributor is created on a database, it generates its own database to store information. Once publishing is enabled on the Global Server, it is able to control and monitor publications and subscriptions as well as the starting and stopping of replication agents. Regional Database Servers act as 'client' database servers. They have the ability to subscribe to publications located on the Global Server. These Regional Servers operate independent of the Global Server for a period of time as necessary. Subscriptions are 'pushed' to each Regional Server by the Global Server. This means that the Regional Servers are not required to request updated data from the Global Server, because updates are periodically supplied to Regional Servers according to a set schedule. Replication intervals are configurable through SQL Server Enterprise Manager user interface. Data is continually synchronized by implementing this customized replication configuration. Refer to the FCWnx Installation Guide for a terminology list and complete description of this feature. Also refer to*Global configuration regional rules on page 44* and Replication and Synchronization Conflicts.

FCWnx Enterprise Edition: Licensed for Windows 2000/2003 Standard Edition Server as the operating system and SQL Server 2000/2005 Standard Edition as the database. FCWnx Enterprise configuration is designed for mid to large-sized systems with capacity requirements of up to 50 clients, 1,024 controllers, and 4,096 readers.

Note: Cluster technology selections in this Enterprise-level installation provide new architecting options. See the document, ***Installing Genesis in a Clustered Environment*** for additional information and instructions.

FCWnx Professional Edition: Licensed for Windows 2000 Professional Server or XP Professional Server as the operating system and SQL Server 2000 Desktop Engine (MSDE), SQL 2000 Server Personal Edition, or SQL 2005 Standard as the database. FCWnx Professional Edition is designed for small to mid-sized systems with capacity requirements of up to 5 client workstations, 64 controllers, and 256 readers.

This manual provides information for system administrators to configure and operate the FCWnx software.

Product contents

Inspect the package and contents for visible damage. If any components are damaged or missing, do not use; contact your supplier immediately. If you need to return the package, you must ship it in the original box.

Before you begin configuration

Before you proceed, make sure that your peripheral system hardware is installed and running. This includes controllers, readers, modems, printers, and network lines. Refer to your *Facility Commander Wnx Edition Installation Guide*, documentation provided with your equipment from GE, or follow specific installation instructions for your brand of hardware.

Licensing

Note: Your software is licensed during the installation process. The license sequence is also an item on the Start, Programs, menu. Refer to the License Help system for additional details of the licensing procedure and operating in *demo mode*.

Selection of the Help menu, **About this application** options opens a screen displaying the software version, service pack number, copyright information, licensing information, and contact information.

Your license included Imaging software for this application that controls the number of clients that can launch Imaging. Imaging installs with every installation; however, you cannot enable Imaging on more computers than you have Imaging licenses. (Only clients that have an Imaging license enabled can capture images and signatures, create credential designs, and print credentials. If not all computers require the license at the same time, you can enable and disable the license for the appropriate computers.)

Thin client licenses are limited to Enterprise Server computers running Windows 2000/2003 operating system. Licensing controls the number of computers that can host remote sessions. You cannot enable thin client on more computers than you have licenses. (If not all computers require the license at the same time, you can enable and disable the option for the appropriate computers.)

Note: To run the License program, click in this sequence: **Start**, **Run**, **Programs**, **Facility Commander Wnx**, and then **FCWnx License**. The License Setup window opens. Follow instructions as displayed. License has a separate Online Help system.

The license that you purchase determines what items display in the Application Group pane. (For example, if you are not licensed for Guard Tours, the Guard Tours group does not display.)

Client/server architecture

FCWnx Server, client workstation, and network-enabled controllers communicate over 10/100Mb Ethernet LAN/WAN typologies. Refer to *Controller Definition tab on page 92* for a list of supported controller types.

Table 4. Client/Server architecture

Element	Description
Win2000/2003 Standard Edition Server	• FCWnx Software **Note:** Cluster technology or Global configuration selections in this Enterprise-level system installation provide new architecting options. All configuration options are detailed in the FCWnx Installation Guide. • Allows database and file Server to be placed on different Windows Server computers. • SQL Server 2000/2005 Standard Edition Database and applicable SQL Server Service Packs • Imaging: The feature is installed but not recommended for production as an Imaging workstation. • Clients: FCWnx supports 800 system-wide clients (any client can host a controller). • Controllers: FCWnx supports 512 system-wide controllers (32 on the server and up to 64 per communications client).
Win2000 Professional Edition or WinXP Professional Edition Server	• FCWnx Software • SQL Server 2000 Desktop Engine (MSDE) and applicable Service Packs or SQL Server 2000 Personal Edition • Imaging: The feature is installed on the server as an Imaging workstation. • Clients: The system supports five system-wide clients (any five can also be configured as communications clients for hosting controllers). • Controllers: The system supports 32 system-wide controllers.
Win2000 Professional or XP Professional Client Workstation	• FCWnx Software • Imaging: The feature is installed.

Facility Commander Wnx edition services

Windows uses special programs called services. A service is a process that can start automatically when the system boots and remains running as a background process independently of anyone being logged in. It runs regardless of whether anyone is logged into Windows or FCWnx. In other words, the computer must be turned on but no one needs to be logged in. The SQL Server 2000/2005 MUST be running for network clients to connect and share the SQL database.

FCWnx has five services that run on all computers. The default Startup Type for services is set to **Manual**. You are instructed to set the FCWnx services for an **Automatic** startup during the FCWnx installation process, which means that they start as soon as the computer is started. Once set to **Automatic**, we recommend that you do not change these settings.

1. **FCWnx Diagnostics** handles all diagnostics on all computers.
2. **FCWnx System Manager** manages communication between computers and licensing. This service also starts the WebService.
3. **FCWnx Manager** is the main service and handles controller communications and alarms.
4. **FCWnx Webservice** handles the video media service. This service is dependent on the System Manager and automatically starts when the Manager service starts.
5. **FCWnx Media Server** is handled entirely by FCWnx Webservice. This service requires no user intervention, and starts and stops automatically.
6. **FCWnx API Service** is used when using an API interface. This service is used when an external system is sending or receiving transactions by way of the Application Program Interface to this application. This service can be started manually at the time you install an API interface.

Note: Changing the state of services without a good working knowledge of the services purpose can cause the computer to act erratically!

Services automatically shut down when a client closes the FCWnx application and meets ALL of the following criteria:

1. Does not host any controllers or DVRs.
2. Does not have any API connections.
3. Is not a Thin Client.
4. Is not a backup client or have any backup clients of its own.
5. Is not a CCTV client.
6. Is not hosting a Guard Tour.
7. Client form **Enable Auto Shutdown** is selected.

Licensing controls the number of computers that can host FCWnx sessions. If a particular client is shut down, that license is now available for another client computer to be designated an FCWnx client and run the FCWnx application. If not all clients require a license at the same time, you can enable and disable the license for the appropriate computers.

Simple File Sharing on WinXP

Simple File Sharing is a feature in Windows XP that removes file sharing security options available in other versions of Windows. This setting must be disabled for FCWnx to operate successfully between Servers and clients. Once the user sets the permission, the user and clients have access to shared files and the ability to assign passwords to shares.

To disable folder shares:

1. Double-click **My Computer** on the Windows XP Desktop.
2. From the **Tools** menu, select **Folder Options** to open a Folder Options window.
3. Click the **View** tab and locate the **Use simple file sharing (Recommended)** checkbox in the list of Advanced Settings.

4. To disable Simple File Sharing, ensure this checkbox is not checked. Click inside the checkbox to disable the option. (The Simple File Sharing checkbox should be at or near the bottom of the Advanced Settings list.)
5. Click **OK** to close the Folder Options window. The settings for Simple File Sharing are now updated; no computer reboot is required.

Note:

1. Enabling Simple File Sharing prevents the ability to assign user-level passwords to shares. When Simple File Sharing is enabled on a computer, remote users are not prompted for a password when accessing that computer's shares.
2. If the Windows XP Professional computer is part of a Windows domain rather than a Windows workgroup, this process for enabling or disabling Simple File Sharing has no effect. Simple File Sharing always remains disabled for computers joined to domains.

Configuring firewall and DCOM settings

This application assists you in configuring firewall and DCOM settings on your computer. We recommend that you configure your FCWnx system with the Windows firewall ON. In order for your system to perform successfully, the following firewall and DCOM ports must be configured for server and client communication across your network.

The application is launched in the following ways:

- Auto launches immediately following the licensing sequence.
- Select **Configure Ports** on the main File menu of this application.
- Click **Start**, then select **Programs**, **Facility Commander Wnx**, then **Security Configuration**.

The three windows of this application are as follows:

1. **Communications Ports for Clients**

   These are the ports used for TCP and UDP filtering.

   Low Range: Enter 6700

   High Range: Enter 6709

   Click **Next** to continue. The settings are automatically saved to your computer.

2. **DCOM User and Password**

   Anonymous: By default, this checkbox is selected and this application uses anonymous authentication. That is, DCOM authentication is not verified. DCOM communications are configured for you by running the `SecurityCnfg` application.

   Supported authentications:

	Anonymous	Local User Account	Domain Account
Domain	Yes	N/A	Yes
Workgroup	Yes	Not supported	N/A

   Clear this checkbox to enable the fields on this tab.

   Username: Enter a domain or local user name for this user. This field accepts 34 characters.

Password: Enter a domain or local password for the user listed in the User Name field. This field accepts 34 characters.

Password (Confirm): Enter the domain or local password a second time identical to what was entered in the Password field.

Domain: Enter the name of the FCWnx domain or workgroup.

Click **Next** to continue. The settings are automatically saved to your computer and DCOM is configured for FCWnx.

- At logon, the user is prompted for a domain user name and password. This logon is used to authenticate remote DCOM objects. At a later time, if you choose to change this selection, return to this window.
- To keep interruptions to the FCWnx application to a minimum, your IT Department may choose to set passwords as never expiring.
- If any computer in your FCWnx system uses DCOM authentication, then all other client computers must use DCOM authentication.

3. **Firewall Configurations**

Note: This window does not display for Windows 2000 operating systems.

The following port numbers display by default:

Controller Communications Port	6699
Client Workstation/Server Communications Port (RPC):	135

The following port numbers are read from the `dvmrtable` of your FCWnx system.

Server Workstation Video Streaming Port:	8088	Used by the video server to send streaming video.
Start Video Communications Port Range (3)	8085	Used by video clients to communicate with video servers. These numbers signify a range of ports. Your application log identifies the specific ports that are opened. Additionally, your firewall application identifies which ports are on or off.
Start Digital Video CViewer Port Range (20)	8089	Additional ports used by video clients to communicate with video servers. These numbers signify a range of ports. Your application log identifies the specific ports that are opened. Additionally, your firewall application identifies which ports are on or off.

Note: If you change any setting, you are opening firewall ports and changing how video communicates. It is recommended that each computer in your FCWnx system be changed to the identical setting. Then, restart services.

Click **Finish** to save and close this application. The settings are automatically saved to your computer.

Navigation

Typical Microsoft Windows navigation is used in this application. Selecting menu bar, drop-down menu, workspace items, and task bar options are typical Microsoft navigational procedures. Color or format in text, or changes in the cursor identify hotspot links to related topics.

1. To make the navigation or topic panes larger:
   - Point to the divider between panes. When the pointer displays, hold down the left mouse and drag the divider left or right.
   - Point to any corner of the windowpane. When the pointer changes to a double-sided arrow, hold down the left mouse button and drag the corner.
2. Move up or down the topic window by clicking the scroll bar on the right side of the topic pane.
3. To save the position of any main application or external application window, right-click to display a shortcut menu. Select *Save Position*. Close the window. When re-opened, the window displays in the saved position.

Log on/log off

Enter your logon/logoff ID and Password:

- To start the FCWnx client program from the File menu.
- To quit the FCWnx client program using the Close button in the top right corner of the FCWnx window.

Note: The default Login/logout ID is secure and the default Password is master. If you purchased your system from GE Security, the default ID and Password are set for you.

UPGRADES: Versions of Secure Perfect 4.0 and earlier did not require case-sensitive default login passwords. When upgrading from a version of Secure Perfect or earlier, you may experience a problem logging in. If you have never changed it, your system default password may be set to initial caps, as in 'Master' and not 'master.'

Logoff

The Logoff option on the File menu allows you to log off of FCWnx without closing the program. A message box displays. Click **OK** to log off of the FCWnx application (logging off allows an operator to log off and another operator to log in without ending the program) or **Cancel** to cancel the logoff process. While logged off, no one can enter data into FCWnx; however, FCWnx continues to communicate with the controllers, store alarm and credential transactions in the history database, and notify you of alarms based on your facility assignment. Refer to the Client form for information on turning alarm notifications on and off.

The FCWnx services are still running but you do not receive any alarm notifications. DO NOT shut down services unless you are instructed or the system requires maintenance.

Shutting down

Note: It is ESSENTIAL that you shut down FCWnx and your computer properly. The results could be disastrous if you do not follow this procedure. You may be required to re-install all of the software on your computer.

To shut down the FCWnx services:

1. Click **START**, **Settings**, **Control Panel**, **Administrative Tools**, and then **Services**. Scroll to services. The services should be stopped in the following order:
   - FCWnx API Service
   - FCWnx Webservice
   - FCWnx Manager (Shutting down Manager service stops controller communications.)
   - FCWnx System Manager (Shutting down System service stops client communications.)
   - FCWnx Diagnostics (If you select FCWnx Diagnostics first, a message displays informing you that the other services also stop. All other services shut down and lastly, Diagnostics shuts down.)
2. Exit Control Panel.
3. From the taskbar, click **Start**, then **Shut Down**.
4. From the Shut Down Windows form, verify that 'Shut down' is selected and click **Yes**.

Menus

Following a successful logon, your application window displays.

Figure 1. Application window

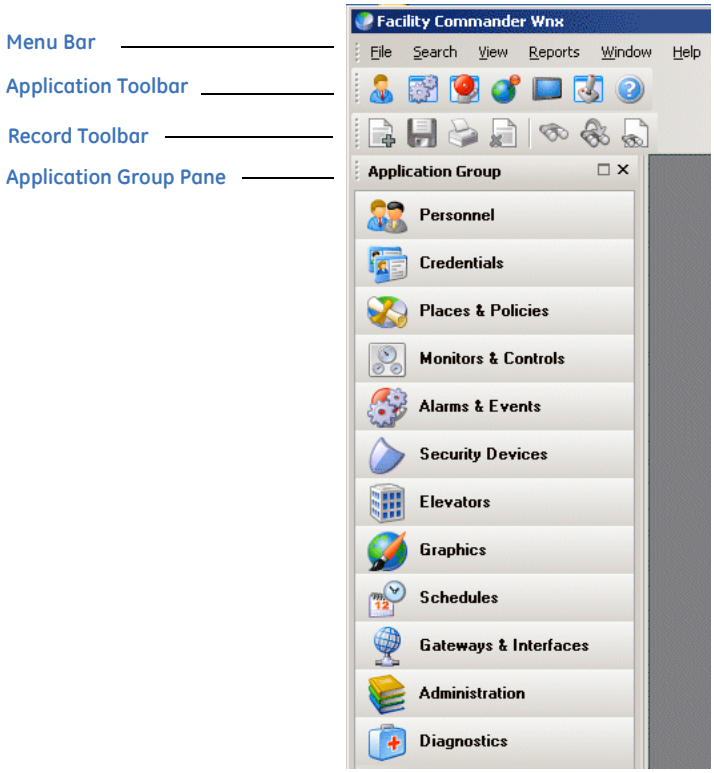


Table 5. Form fields

Element	Description
Menu Bar:	**Select a menu bar item to display a drop-down group of related options. Enabled options on the drop-down menus are preceded with a check ✔ icon.**
File	Click to display File menu selections. See *Table 7 on page 14*.
Search	Click to display Search menu selections. See *Table 8 on page 16*.
View	Click to display View menu selections. See *Table 9 on page 16*.
Reports	Click to display Reports menu selections. See *Table 10 on page 17*.
Window	Click to display Window menu selections. See *Table 11 on page 19*.
Help	Click to display Help menu selections. See *Table 12 on page 19*.
Application Toolbar:	**Click to access frequently used forms.**
Person	Opens the Person form.
Activity Monitor	Opens the Activity Monitor.
Alarm Monitor	Opens the Alarm Monitor.
Graphics Console	Opens the Graphics Console application. (If your system is licensed for this feature, the icon displays.)
Video Console	Opens the Video Console application. (If your system is licensed for this feature, the icon displays.)
Manual Control	Opens Manual Control.
Help	With an application form displaying, you can click the ? icon, then drag the ? over any area and click again. A window opens with information pertaining to the selected section of your form.
Record Toolbar:	**Click any button on this standard toolbar for associated result.**
Add Record	Click to add a record. The Add Record menu option creates a new record preloaded with default data. This is the best way to start or add a new record because the default data often saves you from entering the data. The Add Record option is available only when a form is open, contains records, and you have been given permission to update records.
Save	Click to save the current record. The Save Record menu option saves changes made to the current record into the database. Unsaved entries are discarded. The Save Record option is available only when a form is open, and you have been given permission to update records.
Print Preview	Click to preview before printing. The Print Preview option allows you to preview before printing and is available only when a Report form is displaying. A printer must be added to your FCWnx system in order for this feature to be available. Following completion of all tabs and options on the Report form, click to preview a copy of your report. On the Preview Report screen, the Total: field represents the number of records in the database and not the number of records that matched your search criteria. The zoom % value always reads 100% regardless of the zoom used.

Table 5. Form fields (continued)

Element	Description
Delete Record	Click to delete a record. The Delete Record option deletes the current record from the database. **Note:** BE CAREFUL when selecting this option, as deleted records cannot be recovered! The Delete Record option is available only when a form is open, contains records, and you have been given all permissions. Some forms such as the Reader form do not have a delete option.
Search	Click to search. The Search option conducts a search in the database for all records that match the search criteria data you enter in the form. The records found by the search are displayed in the search results window. Data can be in any number of fields in the form or any number of tables. Only records that match all fields in which data is entered are displayed. An asterisk (*) can be entered in text boxes to indicate wildcard characters. The Search option is available only when a form is open that contains records. Examples: • Enter S* in an appropriate text box to display any records beginning with S. • A search for credentialholders with the last name starting with Sm* would yield such names as Smith and Smythers. If no search data is entered, all records display. Any column displaying in the list box can be sorted by clicking on the column heading.
Recall Search	Click to recall a search. The Recall Search option refills the current form with the last search criteria data. Use this option when you want to recall the last search criteria. The option does not conduct a search or affect any data in the database. The Recall Search option is available only when a form that contains records is open.
Clear Search	Click to clear a search. The Clear Search option clears all data in the current form. Use this option when the form has data and you want to begin a new search. The option does not conduct a search nor does it affect any data in the database. It only clears data from the form in preparation for a search or cancels a change to a record. The Clear Search option is available only when a form that contains records is open.

Table 6. Application Group pane

Element	Description
Application Group Pane:	• Select any Application Group title in the Application pane to display the items in that group. • Right-click the Application Group title bar to display the shortcut option **Hide**, that hides the Application Groups. To display again, select the Windows menu, **Workspace** option. • Right-click within a group to display a shortcut menu and select **Large Icons** or **Small Icons** (default). • The license that you purchase determines what items display. (For example, if you are not licensed for Guard Tours, the Guard Tours group does not display.) • The docked pane can be dragged to an alternative position on your application window.

Table 6. Application Group pane (continued)

Element	Description
Personnel	Click to display items in the Personnel group. The following selections display in the Personnel group pane: • Person • Personnel Type • Department
Credentials	Click to display items in the Credentials group. The following selections display in the Credentials group pane: • Credential • Credential Designer • Credential Alias • Credential Format • Custom Credential Status
Places & Policies	Click to display items in the Places & Policies group. The following selections display in the Places & Policies group pane: • Facility • Area (If your system is licensed for ACU controllers, this item displays.) • Intrusion Zone (If your system is licensed for Micro controllers, this item displays.) • Access Right
Monitors & Controls	Click to display items in the Monitors & Controls group. The following items display in the Monitors & Controls group pane: • Activity Monitor • Alarm Monitor • Client Monitor • Controller Monitor • Graphics Console • Video Console • Manual Control • Digital Input Status • Digital Output Status
Alarms & Events	Click to display items in the Alarms & Events group. The following items display in the Alarms & Events group pane: • Alarm • Alarm Group • Alarm Priority • Routing & Bumping • Response • Instruction • Event Notifier • Video Event Trigger

Table 6. Application Group pane (continued)

Element	Description
Security Devices	Click to display items in the Security Devices group. The following items display in the Security Devices group pane: • Controller • Reader • Digital Input • Digital Output • Digital Output Group • DVR • Camera • Camera Preset
Elevators	Click to display items in the Elevators group. The following items display in the Elevators group pane: • Elevator • Floor
Guard Tours	Click to display items in the Guard Tours group. The following items display in the Guard Tours group pane: • Guard Tour • Guard Tour Point
Graphics	Click to display items in the Graphic Maps group. The following items display in the Graphic Maps group pane: • Graphics Map Editor • Graphics Symbol Editor • Graphics Preference
Schedules	Click to display items in the Schedules group. The following items display in the Schedules group pane: • Time Schedule • Event Schedule • Mode Schedule
Gateways & Interfaces	Click to display items in the Gateways & Interfaces group. The following items display in the Gateways & Interfaces group pane: • CCTV Interface • API Connection
Administration	Click to display items in the Administration group. The following selections display in the Administration group pane: • Preference • Client • Client Group • Operator • Permission • Transaction Override • Region • Auto update (see *auto update*) • Video CD Burner

Table 6. Application Group pane (continued)

Element	Description
Diagnostics	Click to display items in the Diagnostics group. The following items display in the Diagnostics group pane: • Diagnostic Setting • Diagnostic Viewer • Logfile

The following tables list the options displayed in the drop-down menu of each Menu bar selection.

Table 7. File menu

Element	Description
Save Record	Click to save the current record. The Save Record menu option saves changes made to the current record into the database. Unsaved entries are discarded. The Save Record option is available only when a form is open, and you have been given permission to update records.
New Record	The New Record menu option creates a new record preloaded with default data. This is the best way to start or add a new record because the default data often saves you from entering the data. The New Record option is available only when a form is open, contains records, and you have been given permission to update records. The Add Record icon on the Record toolbar has the same features as the New Record menu option.
Delete Record	Click to delete record. The Delete Record option deletes the current record from the database. **Note:** BE CAREFUL when selecting this option, as deleted records cannot be recovered! The Delete Record option is available only when a form is open, contains records, and you have been given all permissions. Some forms such as the Reader form do not have a delete option.
Notes	The Notes menu option opens a text file, **`notes.txt`**, into which you can enter site-specific information. The program used to edit this file is the program that has been associated with **`.txt`** files in Windows (usually Notepad). The **`notes.txt`** file is saved to your desktop by default.
Logoff	Click to display a dialog box. Enter your logoff ID and Password to quit the FCWnx client program.
Print Setup	Select Print Setup to open the Print Setup Window, allowing you to select your printer, printer properties, paper source, and orientation. If your printer is networked, you may be required to adjust the security properties. At the computer that owns the printer, navigate to the Properties window for the selected printer. Click **Start**, **Settings**, **Printers**. Select the printer and then right-click. From the shortcut menu, select **Properties**. On the Security tab of the Properties window, proceed to add **Anonymous Login** to the **Group or user names**.

Table 7. File menu (continued)

Element	Description
Print Preview Report	The Print Preview Report option allows you to preview before printing and is available only when a Report form is displaying. A printer must be added to your system in order for this feature to be available. Following completion of all tabs and options on the Report form, click to preview a copy of your report. **Note:** On the Preview Report screen, the Total: field represents the number of records in the database and not the number of records that matched your search criteria. The zoom % value always reads 100% regardless of the zoom used.
Print Report	The Print Report option allows you to send the current report to a defined printer. This option is available only when a Report form or Report is displaying.
Export	This option is available only when a Report form is displaying. The Export option allows you to select an export format for your report. There are a variety of formats available including text, Word for Windows, Lotus, HTML, and Excel. Select an export destination for the report to a disk file, exchange folder, Lotus Domino, Lotus Domino Mail, or Microsoft Mail (MAPI).
Save Template As	Select this option to create a new template and save under a new file name. This option is available only when a Report form is displaying.
Set As Default Template	Use this option to select a template to use as the default template. This option is available only when a Report form is displaying with a loaded template. While the selected Report form is displaying, select **Set As Default Template**. A message displays stating the current template is now the default template for this form. This template is automatically loaded whenever you open this report form. You cannot undo this election; however, you can later display and assign another report as the default.
Create Default Template	Select this option to create a default Report template. This option is available only when a Report form is displaying. **Note:** If a specific date is part of this template, it uses that date whenever this report is run; therefore, it is important to update the calendar criteria as needed.
Delete Template	Select this option to delete the current Report template. This option is available only when a Report form is displaying with a loaded template.
Check for Update	This item is enabled when the Enable Auto Update option is selected on the Auto Update Configuration form of the Diagnostics group. Each time you log in, your system for this application checks for updates. Also, at any time, you may select this item to begin a search of the configured Web site for updates to the system for this application. This process searches for new upgrades, compares the version, and if the patch or update needs to be applied, a dialog box displays a message. • Click **OK** to close the dialog box and begin the update process. • Click Cancel to close the dialog box and process the upgrade at another time. • If the Web site cannot be reached, a message informs you that communication failed. Recheck your update configuration settings and try again. • If no new updates are available for your system, a message displays informing you that your system is up to date.
Configure Ports	Select this option to configure firewall and DCOM settings on your computer.

Table 7. File menu (continued)

Element	Description
Change Password	The Change Password option opens the Change Password Dialog Box that allows you to change the password of the operator currently logged in. **Note:** This dialog box is available only if this operator has permission to change the operator password, as assigned on the Operator tab of the Operator form.
Exit	Click to display a dialog box. Enter your logoff ID and Password to quit the FCWnx client program.

Table 8. Search menu

Element	Description
Clear Search	The Clear Search option clears all data in the current form. Use this option when the form has data and you want to begin a new search. The option does not conduct a search nor does it affect any data in the database. It only clears data from the form in preparation for a search or cancels a change to a record. The Clear Search option is available only when a form that contains records is open.
Recall Search	The Recall Search option refills the current form with the last search criteria data. Use this option when you want to recall the last search criteria. This option does not conduct a search or affect any data in the database. The Recall Search option is available only when a form that contains records is open.
Search	The Search option conducts a search in the database for all records that match the search criteria data you enter in the form. The records found by the search are displayed in the search results window. Data can be in any number of fields in the form or any number of tables. Only records that match all fields in which data is entered are displayed. An asterisk (*) can be entered in text boxes to indicate wildcard characters. The Search option is available only when a form is open that contains records. Examples: • Enter S* in an appropriate text box to display any records beginning with S. • A search for credentialholders with the last name starting with Sm* would yield such names as Smith and Smythers. If no search data is entered, all records display. Any column displaying in the list box can be sorted by clicking on the column heading.

Table 9. View menu

Element	Description
Status Bar	Status Bar is a toggle option and determines whether or not you view the status bar at the bottom of your screen. Clear the check box to hide the status bar from view. The status bar displays the status of this application, indicating the current operator, communication port status, number of clients connected, number of alarms, and number of background tasks. Also see *Taskbar on page 19*. **Note:** The numbers indicate the total status of all active facilities assigned to the current operator.

Table 9. View menu (continued)

Element	Description
Menu Buttons	The Menu Buttons option determines whether or not the graphics display beside options in the drop-down menus. **Note:** Clear the check box to hide the graphics from view.
Split	The Split option allows you to increase or decrease the horizontal size of the tabs and windowpanes on a form.
Next Pane	The Next Pane option moves the cursor between the main form, the tabs, and the search results window, if there is one.
Workspace	This is a toggle option and determines whether or not the Application Group pane displays along the left side of the application window. Additionally, you can drag the docked Application Group pane to an alternative position on your application window.
Application Toolbar	This is a toggle option and determines whether or not the Application toolbar displays at the top of the application window.
Record Toolbar	This is a toggle option and determines whether or not the Record toolbar displays at the top of the application window.
Select Facility	The Select Facility option opens the Set Active Facilities form that allows you to change the facilities currently in use.
Enable Alarm Video Popup	Select this item to enable/disable an automatic live video pop-up window when an alarm occurs with an associated alarm trigger. By default, this is a toggle option and is not selected. This option must also be activated by selection of Video Window Auto Pop-up on the Event Trigger form, if the operator has been assigned permission for Digital Video Viewer. If operator permission for Digital Video Viewer is not made available, this option does not activate even though selected here. Once selected, the operator login retains this feature until disabled, no matter which computer in the system was used for logging in.

Table 10. Reports menu

Element	Description
Person	The Person option displays the Person Report form that allows you to create a report on the people in the database.
Credential	The Credential option opens the Credential Report form that allows you to create a report on the credentials in your system.
Administration	The Administration option opens the Administration Report form that allows you to create a report on the administrative aspects of your system, such as alarm instructions, events, host preferences, operators, permissions, responses, schedules, archives, clients, and floors.
Device Configuration	The Device option opens the Device Report form that allows you to create a report on devices such as controllers, readers, alarms, alarm groups, digital outputs, digital output groups, digital inputs, DVRs, cameras, and elevators.

Table 10. Reports menu (continued)

Element	Description
Schedule	The Schedules/Events option opens the Schedule Report form that allows you to create a report on the schedules and events defined in this application.
Access	The Access option opens the Access Report form that allows you to create a report based on persons in this application that have access rights and to any of the specific Areas.
Floor Access	The Floor Access option opens the Floor Access Report form that allows you to create a report based on the floors defined in the system and the access granted to each floor.
Area	The Area report option opens the Area Report form that allows you to create a report based on the secure Area transactions in the system.
Alarm History	The Alarm History option opens the Alarm History Report form that allows you to create a report based on the history of alarm activity.
Credential History	The Credential History option opens the Credential History Report form that allows you to create a report based on the history of credential transactions in the system.
Operator History	The Operator History option opens the Operator History Report form that allows you to create a report based on the history of operator activity.
Zone History	The Zone History option opens the Zone History Report form that allows you to create a report based on the history of intrusion zone transactions in the system.
DI History	The DI History option opens the DI History Report form that allows you to create a report based on the history of digital input transactions in the system.
Guard Tour History	The Guard Tour History option opens the Guard Tour History Report form that allows you to generate a report of completed tours displaying tour activities such as start points, hits, invalid points, pauses, resumes, tour end points, tour time exceeded, manual start and manual stop.
Time and Attendance History	The Time and Attendance History option opens the Time and Attendance History Report form that allows you to create a report based on the history of time and attendance activity and the preferences you select.
Area History	The Area History option opens the Area History Report form that allows you to create a report based on the history of secure Area transactions in the system.
Roll Call	The Roll Call option opens the Roll Call Report form that allows you to create a report based on preferences selected for people who last entered a facility by way of a specified reader.
External	The External Reports option opens a Launch External Reports dialog that allows you to select an executable program or report that was not created within this application. For example, you can access reports you created using a third party report generator such as Crystal Reports or Microsoft Access 2002.

Table 11. Window menu

Element	Description
Cascade	The Cascade option allows you to control multiple windows or forms. If you have several forms open but not visible, select this option for a cascading view of your forms with the active form taking precedence on the display screen.
Tile	This option allows you to control multiple window or forms. If you have several forms open but not visible, select this option to view all forms at one time tiled side-by-side or one over the other on your display monitor.
Arrange icons	This option allows you to control multiple windows or forms. If you have several forms in progress, you can temporarily minimize a form from view. Select this option to arrange the minimized form icons across the bottom of your display screen.
Reset all window positions	This option resets all main application and external application windows to the top left of your monitor.
Reset Position	This option saves the position of any open external monitor. The next time a saved window is opened, it opens in the saved position.

Table 12. Help menu

Help Topics	Selection of this option starts the Online Help system. • The left online Help navigation pane displays books and their contents, index entries, and a search tab. • Click and drag the ? of the Application Toolbar over any menu bar or toolbar item and a window opens with information pertaining to the selection. • With an application form displaying, you can click the icon, then drag the over any area of the open form and click again. A window opens with information pertaining to the selected section of your form.
User Manual	Selection of this option launches the User Manual for this application.
About This Application	Help Menu Select About . . . to display a license summary window that lists the following: • Application Version of software installed on your computer • Service Pack (if any) • Copyright information • Detailed list of licensing features • Deployment preferences of this application on your system • List of supported DVRs (enabled only if applicable to your system) • Address and phone number of GE Security

Taskbar

The taskbar (Status Bar) is a toggle election on the View menu, and determines whether or not this toolbar is visible across the bottom of the FCWnx screen. The Taskbar indicates the current operator, communication

port status, number of clients connected, number of alarms, and number of background tasks. It may look similar to the following:

The numbers indicate the total status of all facilities assigned to the current operator.

Element	Description
secure	Displays the currently logged user ID that, by default, is 'secure.'
Communication Port Status	Comm status displays in color depending on the state: • Blue: All controllers for the operator's facility are offline • Green: All controllers for the operator's facility are online.· • Yellow: Some controllers for the operator's facility are in error state.
Clients	Displays the number of clients licensed, online, and logged into FCWnx.
Alarms	Displays the number of unacknowledged alarms displaying on the Alarm Monitor form.
Background Tasks	Displays the number of tasks currently in progress. The length of the task is dependent on the size of the job and hardware components of your computer. The process may take hours to complete.

CAUTION: DO NOT shut down FCWnx services until the background task is complete.

Creating, editing, and deleting records

FCWnx forms use a standard method to add, edit, or delete records.

Creating records

To create a record:

1. From the Application Group pane, such as Personnel, select a secondary item, then click the appropriate tab. For example: Personnel, Person, Personnel tab.When a form is opened, the record list window is empty.

2. From the tool bar, click **Search** to verify that a record does not already exist.

   A record list window displays with all of the existing records or displays the results of search operations and allows you to quickly navigate through the records found by a search.

3. Click **New**.

   The New Record menu option creates a new record preloaded with default data. This is the best way to start or add a new record because the default data often saves you from entering the data.

The New Record option is available only when a form is open, contains records, and you have been given permission to update records. The Add Record icon on the Record toolbar has the same features as the New Record menu option.

4. Complete the form.

   A detailed explanation of each field on the form can be found on the Form fields table for each form in this guide. Not all fields may display on your form, or they may display as read only and disabled. When all required information is complete, you are able to save the record.

5. Click **Save** .

   If you are unable to save or additional information is required, a message displays, informing you of the additional requirements in order to save this record. Complete the additions or necessary changes and click **Save** again.

Editing records

To edit a record:

1. From the Application Group pane, such as Personnel, select a secondary item, then click the appropriate tab. For example: Personnel, Person, Personnel tab.When a form is opened, the record list window is empty.

2. From the tool bar, click **Search** .

   A record list window displays with all of the existing records or displays the results of search operations and allows you to quickly navigate through the records found by a search.

3. Select a record from the list.

   - Click a single record in the record list to select that record for editing. The keyboard up and down arrows can also be used to move from one record to the next. The field values display in the various tabs of the form.
   - More than one row can be selected in order to change a value for multiple records at one time, for example, updating a Department value for all selected records. Multiple rows can be selected by left-clicking the first desired record, then dragging the mouse, and releasing it on the last desired record. Nonconnected rows may be added to the selection by holding down the Ctrl key on the keyboard while selecting the row with the mouse. All selected rows are highlighted. Changing a field value changes it for all selected records.

4. Make the necessary changes to the form.

5. Complete the form.

   A detailed explanation of each field on the form can be found on the Form fields table for each form in this guide. Not all fields may display on your form, or they may display as read only and disabled. When all required information is complete, you are able to save the record.

6. Click **Save** .

   If you are unable to save or additional information is required, a message displays, informing you of the additional requirements in order to save this record. Complete the additions or necessary changes and click **Save** again.

Deleting records

To delete a record:

1. From the Application Group pane, such as Personnel, select a secondary item, then click the appropriate tab. For example: Personnel, Person, Personnel tab.When a form is opened, the record list window is empty.

2. From the tool bar, click **Search** .

   A record list window displays with all of the existing records or displays the results of search operations and allows you to quickly navigate through the records found by a search.

3. Select a record from the list.

   - Click a single record in the record list to select that record for deletion. The keyboard up and down arrows can also be used to move from one record to the next.
   - Multiple rows can be selected by left-clicking the first desired record, then dragging the mouse, and releasing it on the last desired record. Nonconnected rows may be added to the selection by holding down the Ctrl key on the keyboard while selecting the row with the mouse. All selected rows are highlighted.

4. Click **Delete** .

5. Click **Save** . If any record dependencies exist for the record you are deleting, you are not able to delete. You must remove the dependencies before you return to delete this record from the database.

Chapter 2 System preferences

This chapter provides instructions for initial setup of system preferences, facilities, clients, permissions and operators in your Facility Commander Wnx Edition system.

In this chapter:

Overview 24
Configure preferences 24
Configure regions 39
Global configuration regional rules 44
Replication and synchronization conflicts 46
Define facilities 47
Identify and configure clients 48
Define clients groups 57
Create permissions 58
Determine and create operators 61
What's next? 66

Overview

Complete initial setup of system preferences, facilities, client computers, permissions, and operators in your Facility Commander Wnx Edition system before defining other records. Complete the steps in the order presented.

Configure preferences

Administration Group

Complete the tabs of the Preference form, Administration group, to assign global settings used throughout the FCWnx system. You want to configure the global system preferences before you begin loading your database by creating records and assigning permissions.

Setting tab

Use this tab to set the general system settings.

Figure 2. Setting tab

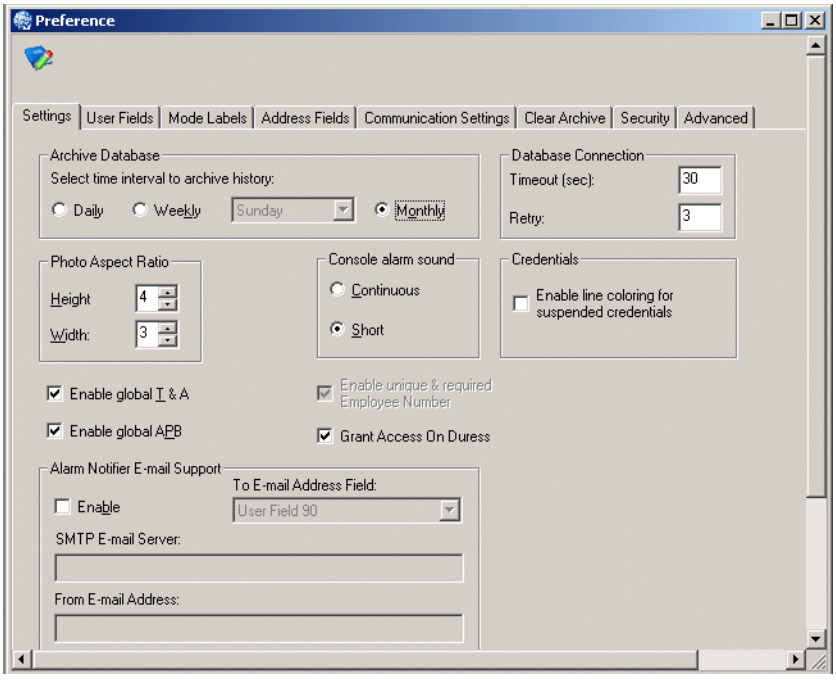


Table 13. Form fields

Element	Description
Archive Database	Select an option to schedule archiving history. Archiving creates a copy of the latest history transactions, leaving your history database empty. The default value for this option is Monthly. If you select: Daily: The archive is appended every day beginning at 11:59:58 P.M. Weekly: The archive is appended every week on the day that you select, beginning at 11:59:58 P.M. (You must select a day of the week.) Any change in the scheduling occurs immediately. For example, if archiving is taking place on Tuesdays and the schedule is revised to archive on Wednesday, the archiving occurs one day later, on Wednesday. Monthly: The archive is appended on the last day of the month beginning at 11:59:58 P.M. The FCWnx services do NOT have to be running. Archiving occurs as long as SQL Server Agent services are running.
Database Connection	This feature allows you to configure the amount of time that elapse before your FCWnx system detects and advises you that your database is not accessible. Timeout (sec): The default is 30 seconds. The minimum is 3 seconds; the maximum is 120 seconds. 1) In an FCWnx Global configuration, this is the amount of time until a Regional failover begins. 2) In a typical FCWnx configuration, this is the amount of time before FCWnx transactions are saved, FCWnx services shut down, and a message advises you to repair your database. Retry: The default is 3 retries. The minimum is '0'; the maximum is 5 retries.
Photo Aspect Ratio	Select or enter a number for the height and the width. The aspect ratio controls the relationship between the height and width of the photos. This setting controls the photos displayed in the Capture program, on the Person form, and in the Credential Designer program.
Console alarm sound	Continuous/Short: Select Continuous to sound a continuous tone when alarms are detected. Select Short to sound a short tone when alarms are detected.
Enable global T&A Broadcast	Select this checkbox if you want the entry status (either IN or OUT) for all credentials using Time and Attendance readers to be sent to and enforced by all controllers. Disabling the checkbox requires each controller to enforce T&A independently.
Enable global APB Broadcast:	Select this checkbox if you want the entry status (either IN or OUT) for all credentials using anti-passback readers to be sent to and enforced by all controllers. Disabling the checkbox requires each controller to enforce anti-passback on readers within each controller.
Enable unique & required Employee Number	(Selected and unavailable by default.) This checkbox is only available after converting and upgrading a previous database. This feature enforces assignment of unique and required Employee numbers for each Person record.

Table 13. Form fields

Element	Description
Grant Access on Duress	Select this checkbox to allow a door to open, and to signal a threatening situation. With a valid access right and valid credential, a PIN code is entered at the reader and one of the following: (a) Micros: the final digit is incremented by + 1. (That is, 1232 becomes 1233; 1239 becomes 1230. Note that ONLY the final digit changes.) (b) ACUs: the entire number is incremented by +5. (That is, 1239 becomes 1244.) This sequence generates a duress alarm that displays on the Alarm Monitor similar to the following: 0001-1-01 Duress. The Activity Monitor displays activity type as Duress Activity. The default setting for your system includes this feature already selected. Clear this checkbox if you do not want this feature.
Enable credential line coloring for suspended credentials	Select this checkbox to enable the FCWnx system to display suspended person and credential records in red.
Alarm Notifier E-mail Support:	Enable: Select this checkbox to activate the e-mail notification option. The following e-mail dialog boxes become available: To E-mail Address Field: Select a field name from the drop-down list that is assigned as an e-mail address. 1) Labels for these field names are assigned on the User Fields and Address Fields tab of this form. 2) The content of each field is entered in the User Fields or Address fields on the Person form. [Global systems: To ensure successful e-mail alarm notification across regions in a Global configuration, the Global Database Server and all Regional Database Servers must have identical configuration settings. That is: 1) For all Servers in your Global system, the user field selected for the 'To E-mail Address Field' must be identical. While configuring each Server, select the field that represents the e-mail address from the drop-down list. 2) All other Alarm Notification information is specific to the Regional Database Server.] SMTP E-mail Server: Enter the name of the server that handles the transfer of e-mail to and from the e-mail addresses. This dialog box cannot be left blank and accepts up to 256 alphanumeric characters. From E-mail Address: Enter an e-mail address of the account or person that is generating this alarm notification such as spadmin@aol.com. This dialog box cannot be left blank and accepts up to 64 alphanumeric characters. Allow Anonymous Access: This checkbox is selected by default, permitting the transmission of an e-mail alarm notification without further authentication. The E-mail User Name and E-mail Password dialog boxes are not available for entry and not required with default settings. If the security requirements of the e-mail server require further authentication, clear the check box to make available the dialog boxes for entry of an E-mail User Name and E-mail Password: • E-mail User Name: Enter the user name that the e-mail server uses to validate this user. This dialog box accepts up to 64 alphanumeric characters. • E-mail Password: Enter the user password that the e-mail server uses to validate this user. This dialog box accepts up to 64 alphanumeric characters.

How to

1. Select a time interval for archiving your database.
2. Configure the number of seconds that elapse before your FCWnx system detects and advises you that your database is not accessible.
3. If you are using image badging, set the aspect ratio.
4. Set console alarm sounds.
5. Configure for line coloring for suspended credentials.
6. Enable T&A and APB if applicable for your system.
7. If this is a conversion or upgrade, you can select Enable unique and required Employee Number.
8. Select if you want to enable Grant Access On Duress.
9. Configure if you want Alarm E-mail Notification.
10. Click **Save** before you exit this tab.

User Fields tab

Complete this tab to modify the labels for user fields. These labels are used on the Person form and Credential form.

Figure 3. User fields tab

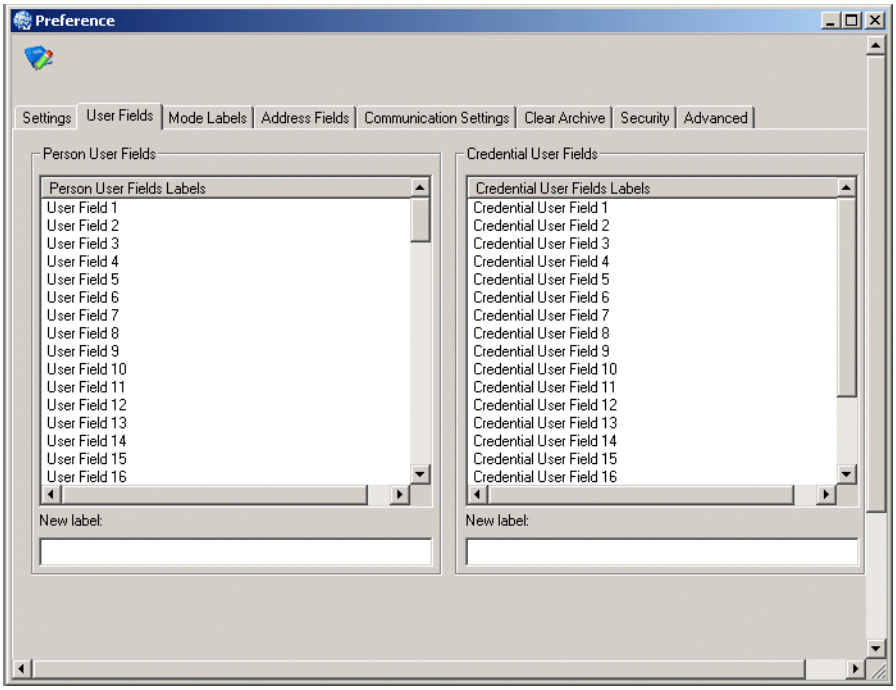


Table 14. Form fields

Element	Description
Person User Fields	Person User Field Labels: Displays a list of 90 currently assigned labels for the Person form user fields.
New Label	New label: To assign or edit the label of a Person form user field, select a label and enter the new or edited text in this dialog box. The user field label can be up to 32 alphanumeric characters long.
Credential User Fields	Credential User Field Labels: Displays a list of 20 currently assigned labels for the Credential form user fields.
New Label	New label: To assign or edit the label of a Credential form user field, select a label and enter the new or edited text in this dialog box. The user field label can be up to 32 alphanumeric characters long.

How to

1. Select a label in the Person User Fields windowpane.
2. Edit the label by entering over the text in the New Label field below this windowpane.
3. Select a label in the Credential User Fields windowpane.
4. Edit the label by entering over the text in the New label field below this windowpane.
5. Repeat for each label field that you want to edit.
6. Click **Save** before you exit this tab.

Mode labels tab

Use this tab to change the labels of modes. These labels are used in scheduling. Refer to the Event, Time, and Mode Schedule forms for configuration of the modes you have created and labeled here.

Figure 4. Mode Labels tab

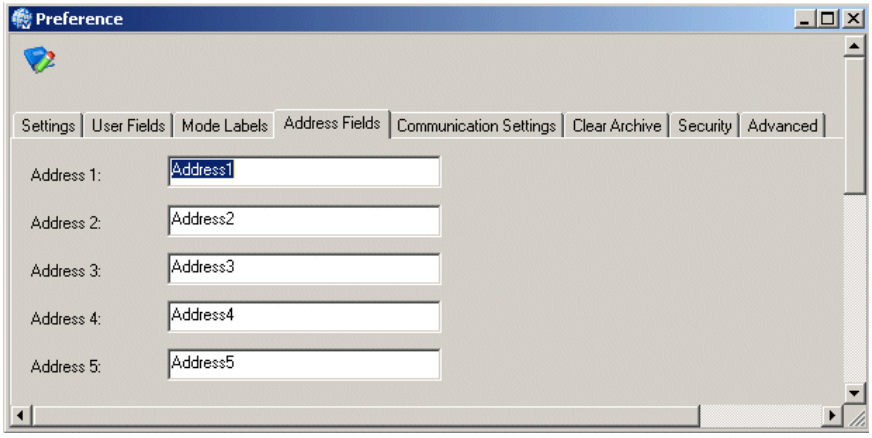


Table 15. Form fields

Element	Description
Mode 1	The default label displays. To change the label, select and enter over the existing text, up to 30 alphanumeric characters.
Mode 2	The default label displays. To change the label, select and enter over the existing text, up to 30 alphanumeric characters.
Mode 3	The default label displays. To change the label, select and enter over the existing text, up to 30 alphanumeric characters.
Mode 4 . . .	For systems using ACU controllers, these additional Modes display: Mode 4 Mode 5 Mode 6 Mode 7 Mode 8

How to

1. Select in the field of any one of the Mode label fields.
2. Enter over the existing text, up to 30 alphanumeric characters.
3. Repeat for each label field that you want to edit.
4. Click **Save** before you exit this tab.

Address Fields tab

Use this tab to modify the labels of the address fields. These labels are used on the Person form.

Figure 5. Address Fields tab

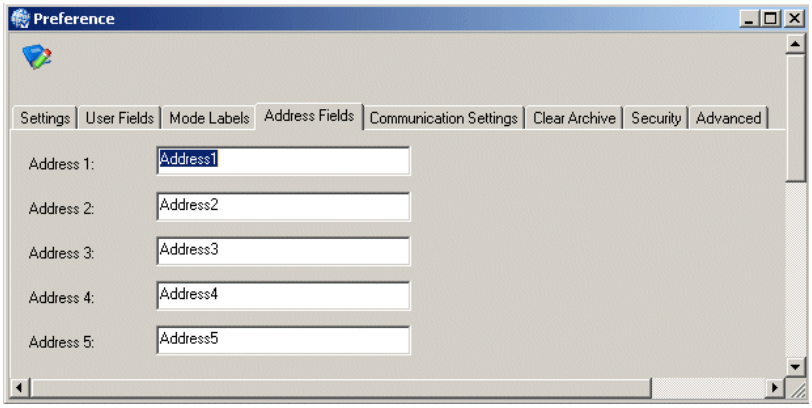


Table 16. Form fields

Element	Description
Address 1 Address 2 Address 3 Address 4 Address 5	The default label displays. To edit or create a new label, select and enter text over the existing text. The address field label can be up to 32 alphanumeric characters in length.

How to

1. Select in the field of any one of the Address fields.
2. Enter over the existing text, up to 32 alphanumeric characters.
3. Repeat for each label field that you want to edit.
4. Click **Save** before you exit this tab.

Communication Settings tab

Use this tab to select the modems that are to be used for dial-up controllers.

Figure 6. Communication Settings tab

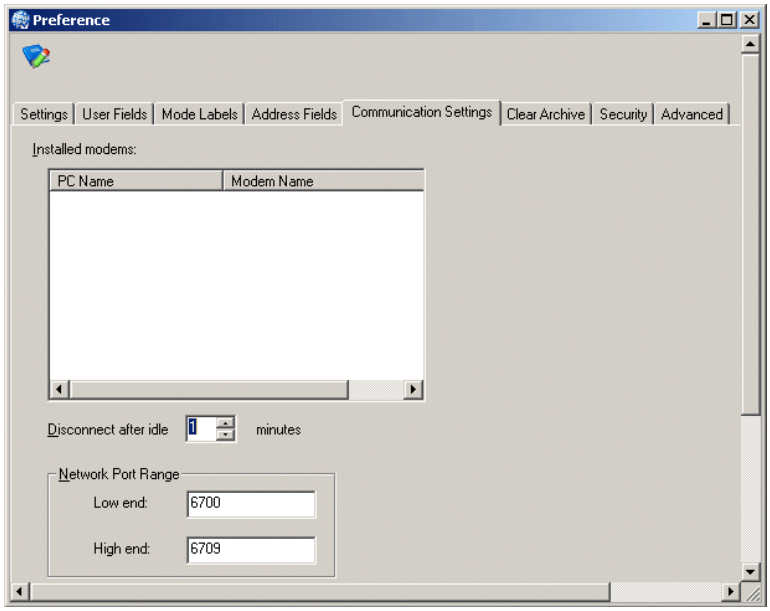


Table 17. Form fields

Element	Description
Installed Modems	Displays all modems currently installed on the PC. To designate a modem for use with a dial-up controller, enable it by clicking in the box to the left of the modem name so that a check displays. If you have a modem installed for support use, DO NOT SELECT THAT MODEM.
	For systems using ACU controllers: The modem can either be a Star Comm or a US Robotic Sportster modem at the host. *For systems using Micro controllers*: The modem must be a Star Comm at the host. Modems used with FCWnx must have a Windows modem driver. If there is no modem matching what is currently on your system, you must add the appropriate modem. **(If already installed, begin with Step 3.)** 1. Click **Start**, **Settings**, **Control Panel**, then **Phone and Modem Options**. 2. When the Options window opens, click the **Modems** tab. Click **Add** to open the Wizard. You can allow Windows to detect you modem or select from a list by manufacturers. Complete the windows to add your modem. Exit the Wizard when finished. 3. When you are returned to the Modem list of the modem tab, select the appropriate modem and click **Properties**. • In the Properties window, click the **Modem** tab. Set the Maximum Port Speed to **9600**. Click **OK**.

Table 17. Form fields (continued)

Element	Description
	• *For systems using ACU controllers*: In the Properties window, click the **Advanced** tab. In the **Extra initialization commands** field, enter the following: &M0&K0&N6&U6 • *For systems using Micro controllers*: In the Properties window, click the **Advanced** tab. In the **Extra initialization commands** field, verify that the field is blank. • Click **Change Default Preferences** to open a properties window with the General tab displayed. Set Data Connection Preferences as follows: Port Speed to **9600** Data Protocol to **Disabled** Compression to **Disabled** Flow Control to **Hardware** Click **OK**. 4. Click **OK**. 5. Exit the Control Panel or continue to set additional modems.
Disconnect after idle	Select the number of minutes you want the system to wait before disconnecting from the controller when the connection is idle (there is no history or database information being exchanged). If you select 0, the connection remains active indefinitely and the host never drops communication with the controllers.

How to

1. To designate a modem for use with a dial-up controller, enable it by clicking in the box to the left of the modem name so that a check displays. If you have a modem installed for support use, DO NOT SELECT THAT MODEM.
2. Select the number of minutes you want the system to wait before disconnecting from the controller when the connection is idle.
3. If you cross a firewall to communicate with a controller, review *Table 17* above.
4. Click **Save** before you exit this tab.

Clear Archive tab

Use this tab to configure your system database archive clean-up.

Figure 7. Clear Archive tab

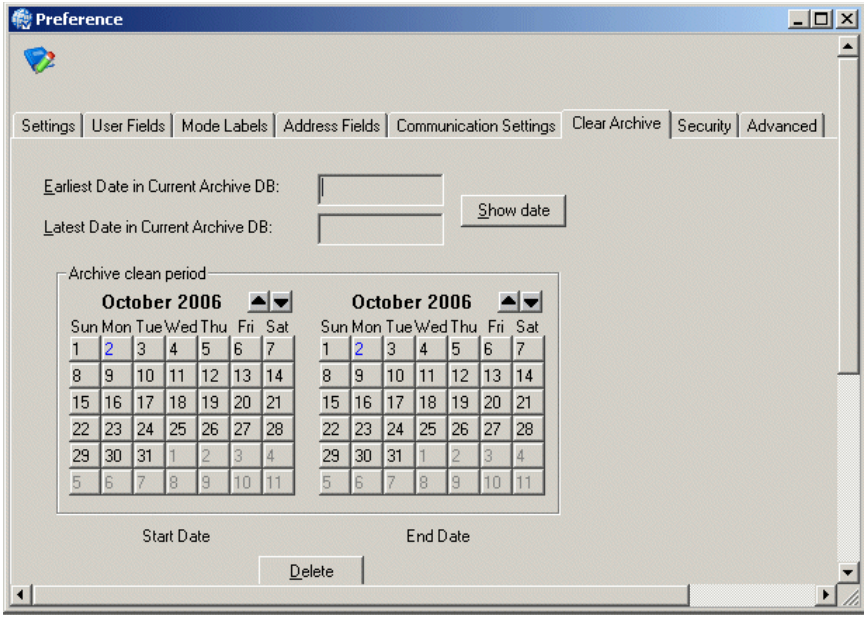


Table 18. Form fields

Element	Description
Earliest Date in Current Archive DB	If you have an archive database, this date displays when you click **Show Date**.
Latest Date in Current Archive DB	If you have an archive database, this date displays when you click **Show Date**.
Show Date	If you have an archive database, click **Show Date**. • The Earliest Date in Current Archive DB and Latest Date in Current Archive DB displays. • If you do not have an archive database, the two date fields state No Record.
Archive Clean Period	• Start Date: Select the Start Date of the data that you want to remove from your database by selecting the month, then the day to begin your archive. • End Date: Select the End Date of the data that you want to remove from your database by selecting the month, then the day to end your archive.
Delete	Click after selecting Start Date and End Date to remove from your database. **Note:** The deletion of an archive database takes place in the background. Progress is indicated on the status bar. This may take hours to complete and is dependent on the size of the Archive database and the hardware components of your computer.

How to

1. Click **Show Date** to display the Earliest Date in Current Archive DB and Latest Date in Current Archive DB.
2. Set the Start Date and End Date, for the dates that you want removed from your database archive.
3. Click **Delete** to clean that portion of your database archive. The removal takes place in the background.

Backing up data

A backup is a copy of selected data. Since this application does not contain a backup option, you can use any method you like to back up the data. Because the Server computer contains the database, there is no need to back up your application folder on your client computers.

You should keep two sets of backups, of the following Server computer files:

This application Data: The data includes the following:

- Database: Contains configuration data such as credentials and controllers.
- History: Contains current history including credential transactions and operator history.
- Archive: Contains the latest copy of this application history data.
- Images: Contains the picture files of credential holders.
- Signatures: Contains the signature files of credential holders.
- Graphics: Backup needed if you are using Graphics Console. Contains the alarm graphics maps.

Note: The Server program MUST NOT BE RUNNING when you attempt a backup of images, signatures, or graphics!

You should back up this data more often since it changes so frequently. While your internal policies may dictate your backup requirements, we recommend that you create a backup at least every week.

Entire Installation of this application

- The entire application folder should be backed up when you first set up the system and have confirmed that it is working, and any time you upgrade. It is very important that you also back up the registry settings. In most backup programs, you are prompted to back up these settings.
- ALWAYS MAINTAIN A CURRENT BACKUP. Should you have any problems with your system, you can always restore your backup.

Note: Enterprise Edition Systems use SQL Server utilities to back up the database, History, and Archive.

Professional Edition Systems use the FCWnx Maintenance Utility to back up the Database, History, and Archive information (tables and queries).

Archiving

An archive is a history of transactions. The archive is created automatically by this application, based on the time interval that you selected on the Preference form (Daily, Weekly, or Monthly). When you select Weekly, you must also select a day of the week.)

If you select:

- **Daily**: The archive is appended every day beginning at 11:59:58 P.M.
- **Weekly**: The archive is appended every week on the day that you select, beginning at 11:59:58 P.M. (You must select a day of the week.) Any change in the scheduling occurs immediately. For example, if archiving is taking place on Tuesdays and the schedule is revised to archive on Wednesday, the archiving occurs one day later, on Wednesday.
- **Monthly**: The archive is appended on the last day of the month beginning at 11:59:58 P.M.

The services for this application do NOT have to be running. Archiving occurs as long as SQL Server Agent services are running. The archiving process takes place independently of this application. As long as the SQL Server Agent services are running, the archive process occurs.

Determine the status of the SQL Server Agent service by navigating to Settings, Control Panel, then Component Services through Windows Explorer. Check the Status of SQLAgent$SQL for this application.

Note: Archiving is performed on the database Server computer only.

Archiving creates a copy of the latest history transactions and then removes all the data from the history database. The data is appended to the archive database until you decide the archive database has grown too large.

The factors in determining whether the archive database is too large can be:

- The performance you receive when running history reports.
- The length of time you need to keep data.
- Other factors specifically related to your installation.

To remove data from the archive database:

1. BACK UP YOUR ARCHIVE DATABASE for this application! You have to back up the Archive database using utilities provided by SQL Server 2000/2005or by using the Maintenance Utility in this application. After you perform the backup, label and store the media in a safe place.

   WARNING: If you do not back up the SecurePerfectArchive, you lose all the data stored in it.

2. Select the Administration group, then Preference. The Preference form opens with the Settings tab displayed.
3. Select the Clear Archive tab. The Earliest Date in Archive DB and Latest Date in Archive DB fields indicate dates once you have clicked the Show Date button. If you do not have any records in your archive database, the two date fields state No Record.
4. Choose the Start Date of the data that you want to remove from your archive database by selecting the month, then the day to begin your archive.
5. Choose the End Date of the data that you want to remove from your archive database by selecting the month, then the day to end your archive.
6. Click **Delete**.
7. Click **OK**.

   Note: The deletion of an archive database is taking place in the background. Progress is indicated on the status bar in the lower right side of the screen. The process may take hours to complete. The length of time is dependent on the size of the archive database and the hardware components of your computer.

8. Upon completion, a message displays: The records from the Archive database has been successfully deleted! Click **OK**.

Appending archive databases

If you have a backup of a `SecurePerfectArchive 3.x` or later database, the data can be restored using the Maintenance Utility for this application. Backup and Restore functions are detailed in the *Installation Manual*.

The Maintenance Utility for this application also appends credential history, alarm history, operator history, and where appropriate, Digital Input history, Zone history, and DVR history data to the current Archive database. Current Archive data is not affected.

In order to use the Append utility, you must meet the following criteria:

- Backup Archive files must be restored to a local or mapped network directory folder.
- Free disk space that equals at least three times the size of your database backup file.
- The '`sa`' password available.
- Sufficient time and patience to complete the procedure.

To append data:

1. Open the Maintenance Utility and select **Append** from the menu bar.
2. Navigate to the drive on the local computer where the backup file is located.
3. Select the folder in which the backup file is located.
4. Select **Archive** from the Backup Source File list.
5. Drag and drop the backup Archive file to the Archive Databases Only: dialog box.
6. Enter the 'sa' password.
7. Click **Append**.
8. The Append process can take a considerable amount of time, depending on the size of the backup. During the Append process, the application looks like it is not responding. This is normal.
9. When you have finished using the data, we recommend that you delete the appended data using the Preference form, Clear Archive tab. This keeps the current Archive file from becoming too large in size.

Restoring databases

Complete instructions for Restore functions are detailed in the *Installation Manual*. Restoring your databases depends on your system and how you performed your backups.

Note: **Professional Edition**: If you have a backup of this application's databases, the data can be restored using the Maintenance Utility.

Security tab

This tab allows you to select the preferences for passwords used in the FCWnx system.

Figure 8. Security tab

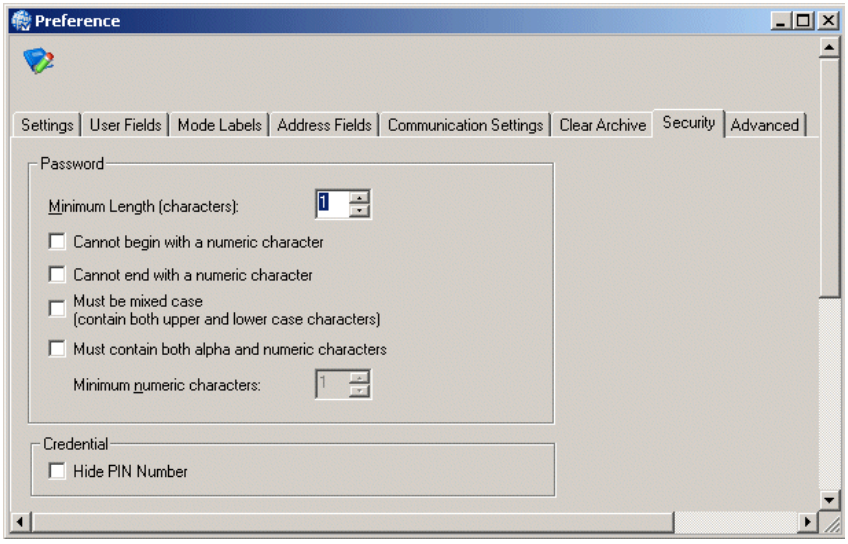


Table 19. Form fields

Element	Description
Minimum Length (characters)	This field accepts 1 to 20 characters. Enter a number, then select those features that you want to enforce for this password: • Cannot begin with a numeric character. • Cannot end with a numeric character. • Must be mixed case (contain both upper and lower case characters). • Must contain both alpha and numeric characters. If selected, this option enables the Minimum numeric characters control field. Enter a number that represents the number of numeric characters for this password.
Minimum numeric characters	The range for this selection is 1 to 19 characters with at least 1 alpha character.
Credential	Hide PIN Number: This determines whether or not the actual PIN numbers display on the Credential form and in a Credential History Report. If selected, the numbers are hidden and replaced by asterisks in the PIN Number field.

How to

1. Assign the minimum number of characters allowed for a password in the FCWnx system.
2. Assign the minimum number of numeric characters allowed for a password in the FCWnx system.

   Note: If the current operator has permission to change their password, the preferences selected here display in the Change Password window as reminders.

3. Click **Save** before you exit this tab.

Advanced tab

Use this tab to assign an 8-digit numeric code associated with the sites of your company business units.

Figure 9. Advanced tab

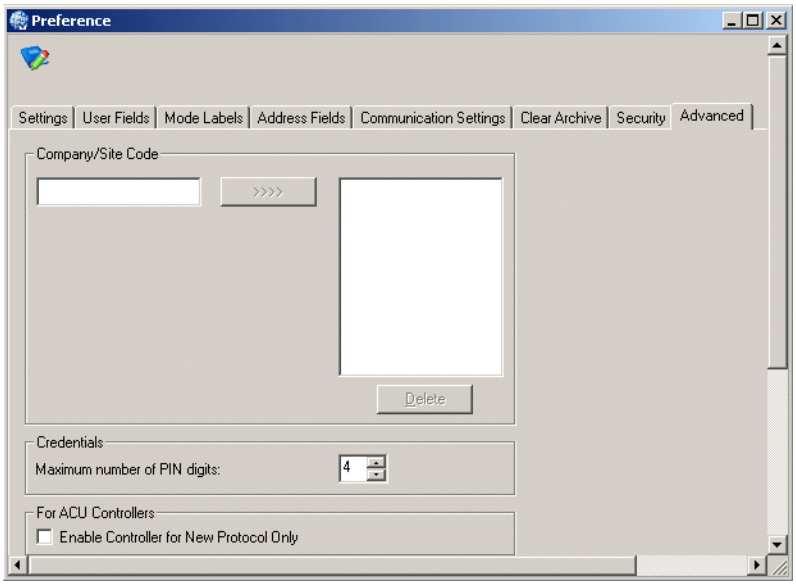


Table 20. Form fields

Element	Description
Company Code Group	
Input Field	Enter the 8-digit number. • This number is a combination of a 4-digit company code number with preceding zeros if appropriate, and a 4-digit company facility code number with preceding zeros, if appropriate. • This number can be all zeros. • This field accepts only numeric digits and must be 8 digits. • This number corresponds to the number that is encoded in your access cards. **Example:** 00670010 = The first four digits indicate your company number (67) with preceding zeros (0067). The second set of four digits indicate your company facility number (10) with preceding zeros (0010).
Arrows	Click to move your new code number from the input field into the list box of existing code numbers.
Listbox	This is a display of existing company codes.
Delete	A numeric code can be deleted only if it is not being used in your FCWnx system.
Credentials:	**Max number of PIN digits**: Enter or select a number between 4 and 6 as the number of allowable digits used as a credential PIN. The maximum number of PIN digits is 6. This number is assigned on the Credential form.

Table 20. Form fields (continued)

Element	Description
For ACU Controllers	**Enable Controller for New Protocol Only**: If selected, the ACU controller auto detects which protocol to use, communicates with this application only, and cannot communicate with any other application. (The ACU controller must be connected and online in this application.) **Example**: If this option is not selected, it is possible to continue both access control systems during a transition period to your new software. You may need to run reports from your previous software, using the identical ACU controllers.
Save	Click to save your company code records. Following a save, you cannot edit a code number record.

How to

1. Using the guidelines in *Table 20*, enter an 8-digit number.

   Example:

   `00670010` = The first four digits indicate your company number (67) with preceding zeros (0067). The second set of four digits indicate your company facility number (10) with preceding zeros (0010).

2. Move your number into the listbox.
3. Click **Save** before exiting this tab.

Configure regions

Use the Region form, Administration group, to display if you are licensed for Global configuration. Refer to the *Facility Commander Wnx Edition Installation Manual* for complete details of the Global features. When a Server computer is added to an FCWnx Global configuration, Region form records are also created. You cannot delete a Region form record.

- The Region Form allows you to assign or edit the frequency of synchronization intervals for your Global configuration database replication.
- Global systems can also be configured for database redundancy, at the Regional level.
- A Regional Database Server can be configured to have backup Servers in the event of a failure at the default Regional Server.
- APB options are available for configuration in the selected Region.

Note: REMINDER: A subscription is a request for a copy of data or database objects to be replicated. It defines what publications are received, where, and when. The time that it takes to complete this process of replication and synchronization is dependent on the amount of data needed to be synchronized.

Table 21. Form fields

Element	Description
Description	Click **Search** to display a list of Database Servers in your FCWnx system. Select one of the Database Servers from the list box in the right windowpane. The selected server name now displays in the Description field. This is a required field and accepts 64 characters.
Facility	A facility option can be assigned for the Area from the drop-down list of available facilities for assignment by this operator. The default of Ignore Facilities is assigned if no other selection is made.

Region tab

Use this tab to identify a Global Database Server or Regional Database Server, and configure synchronization intervals. This tab also contains the licensing information about the Region.

Figure 10. Region tab

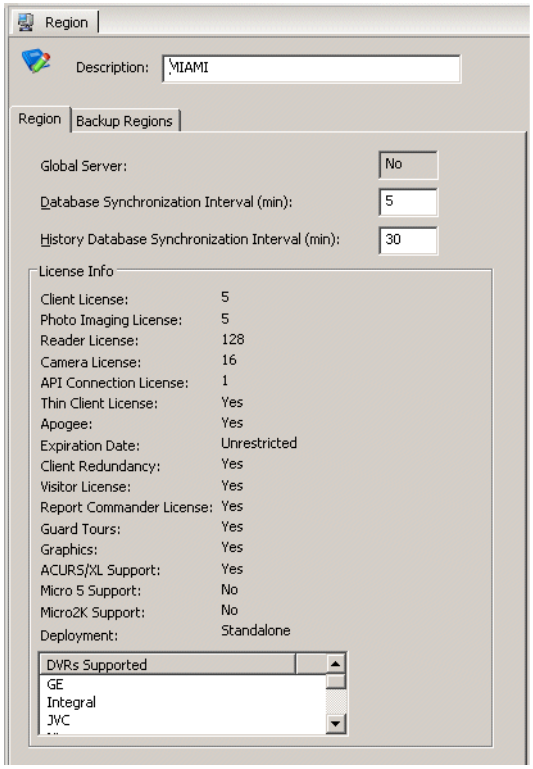


Table 22. Form fields

Element	Description
Global Server	If the selected server name: • Is a Global Database Server, a Yes displays in the Global Server field. Synchronization interval fields are unavailable for input. You can assign synchronization intervals on Regional Database Servers only. • Is a Regional Database Server, a No displays in the Global Server field. Synchronization interval fields are available for input. **Note:** The synchronization processing time is dependent on how much data needs to be synchronized and the performance of your system. Using Windows, we recommend that you synchronize time settings on the computers within your FCWnx Global configuration.
Database Synchronization Interval (min):	This database contains configuration data relating to credentials and controllers. The default and minimum number of minutes for synchronization of this database is every five minutes. The maximum number of minutes is 1440 (once per day).
History Database Synchronization Interval (min):	This database contains current history including credential transactions and operator history. The default and minimum number of minutes for synchronization of this database is every five minutes. The maximum number of minutes is 1440 (once per day). **Note:** REMINDER: A subscription is a request for a copy of data or database objects to be replicated. It defines what publications are received, where, and when. The time that it takes to complete this process of replication and synchronization is dependent on the amount of data needed to be synchronized.
License Info:	This list informs the operator of the current licensing capabilities of the selected Region. **Example**: This information is helpful to an operator when attempting to add an additional feature to a Region. A message may display, informing the operator that addition of the feature is in excess of the license limit for that Region. The operator consults this form to review the license capabilities. If limits for that feature have been reached, additional devices cannot be added at this time.

How to

1. Select the number of minutes you want the system to wait between database synchronization.
2. Select the number of minutes you want the system to wait between history database synchronization.
3. Verify the license information.
4. Click **Save** before you exit this tab.

Backup Regions tab

Global systems can be configured for database redundancy, at the Regional level. A Regional Database Server can assign another for backup in the event of a failure at the default Regional Database Server.

Regional database redundancy and fileserver redundancy operate independently. One or the other, or both can fail at the same time, whether they reside on the same server computer or are configured to reside on separate computers. FCWnx initiates three tries to fail over to another fileserver. This process is taking place in the

background. After three tries with no success, an FCWnx FileServer interface attempts to locate an available fileserver. If all attempts fail, the interface generates an alarm.

Note: If you select a failover Regional Server and want your clients to failover to the backup Server, you must also select the Client Region Failover checkbox on the Client form, Client tab.

Figure 11. Backup Regions tab

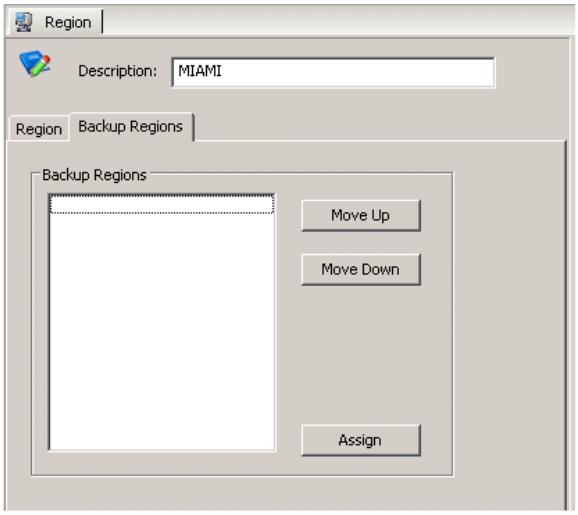


Table 23. Form fields

Element	Description
Backup Regions	This list box displays those Regional Database Server computers that you have assigned to take over control in the event of a failure at the default Regional Database Server. The order in which the computer names display, determines which Server is next in line to take over.
Move Up	Select and click to move this Regional Server up the list
Move Down	Select and click to move this Regional Server down the list.
Assign	Click to display a Backup Region Assignment dialog box, listing available Regional Database Servers found on your FCWnx Global system. Those computers selected and assigned when you close the dialog box, display in the Backup Regions list.
Backup Region Assignment	A list displays, of available backup Regional Database Server computers. • Select one or more computer names from the available list and then click the right arrow to assign. • Select one or more computer names from the assigned list and then click the left arrow to unassign. Click **OK** to accept the selections and close this window.

How to

1. Review the list of assigned Backup Regions.
2. If applicable, select to move a Region up or down in backup priority.
3. Click **Assign** to display the Backup Region Assignment dialog box.

4. Assign one or more database servers as Regional database backup servers.
5. Click **OK** to close the dialog box and display the computer names as assigned.
6. Click **Save** before you exit this tab.

APB Region Configuration tab

Use this tab to identify APB IN and APB OUT readers, and configure the APB behavior across Regions.

Figure 12. APB Region Configuration tab

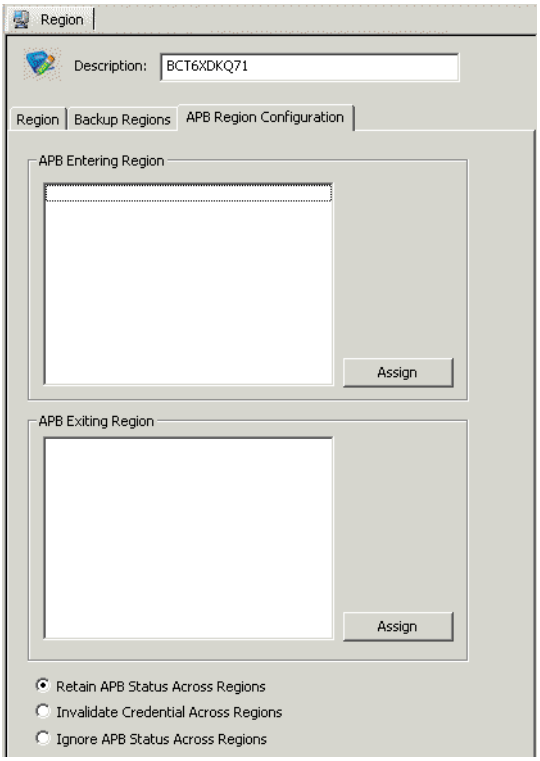


Table 24. Form fields

Element	Description
APB Entering Region	This list box displays those readers that have been selected as APB IN readers for the selected Region.
Assign	Click to assign APB IN readers to this region. Only readers previously configured as APB IN readers are displayed for selection.
APB Exiting Region	This list box displays those readers that have been selected as APB OUT readers for the selected Region.
Assign	Click to assign APB OUT readers for this region. Only readers previously configured as APB OUT readers are displayed for selection.
It may not be required or significant for the controllers in a Region to report status to another Region. Select from one of the following notification options:	

Table 24. Form fields

Element	Description
Retain APB Status Across Region:	This is the default of three status options. If selected, the APB status is recognized across all Regions in the FCWnx Global system. A credential can be presented at an APB IN reader in one Region and at an APB OUT reader in a second Region. (Enable Global APB must be selected on the Preference form.)
Invalidate Credential Across Regions:	If selected, this option disables the credential in all other regions when a person enters the selected Region by presenting the credential at an APB IN reader. The Activity Monitor displays 'Invalid APB IN' or 'Invalid APB OUT' if you attempt to enter in or out of any other Region. When a person exits the selected Region and the credential is presented at an APB OUT reader, the credential becomes enabled in all other Regions. (Enable Global APB must be selected on the Preference form.) **Example:** Employees badging IN at a Miami office are tracked and not allowed to credential IN to another location until they have presented their credential at an APB OUT reader in Miami.
Ignore APB Status Across Regions:	If selected, the APB status is local to the selected Region and status is retained within the Region. Regions are independent of each other and the status is not recognized by another Region.

How to

1. Assign APB IN readers.
2. Assign APB OUT readers.
3. If necessary, select **Retain APB Status Across Regions**.
4. Select **Invalidate Credential Across Regions** if that is appropriate for your FCWnx system.
5. Select **Ignore APB Status Across Regions** to retain the APB status within the local Region.
6. Click **Save** before you exit this tab.

Global configuration regional rules

This topic addresses administration and behavior of a successful Global configuration. Particular functions in the Global configuration must be handled locally, at the Regional level. The following table is an overview of administrative functions and links to forms where configuration and behavior must be considered.Global Configuration Regional Rules

Table 25. Global configuration Regional rules

Form	Updates allowed in remote Regions?	Deletions allowed in remote Regions?	Comments
Access Right form - Readers Only	Yes	Yes	***Adding or deleting readers from an access right for a local Region or remote Region***: The controllers get updated with the correct reader information in both cases. Digital Output Groups, Elevators, and Zone assignment for access right must wait until replication interval to update the remote database and then perform a database download to controllers in the remote Region.
Alarm form	No (See Comments.)	N/A	***Updating in a Remote Region***: Updates to noncontroller alarms (such as CCTV, Camera, and DVR alarms) are allowed. Updates to devices directly controlled by I/O modules in the controller (such as digital inputs and readers) are not allowed. They must be updated at a local Regional level.
Alarm Group Form	No	N/A	
Credential Alias Form	Yes	Yes	No action required.
CCTV Alarm Form	Yes	Yes	No action required.
Client Form	Yes	Yes	Backup Clients tab, Assign dial-up controller phone numbers
Digital Input Form	No	N/A	
Digital Output Form	No	N/A	
Digital Output Group Form	No	No	
Digital Video Recorder	Yes	Yes	***Editing a DVR in a remote Region:*** Wait for replication to occur before changes take effect. If user changes the host name to a remote client, wait for replication to occur and then restart the hosting client's services. ***Adding a DVR in a remote Region:*** Wait for replication to occur and then restart services on the remote client.
Elevator Form	Yes	Yes	***Editing an elevator in a remote Region***: Edits are not applied until replication occurs on the remote database. After replication, the operator must manually initiate a database download from the Controller Monitor form in order for changes to take effect.
Event Schedule Form	Yes	Yes	***Updating remote Regions***: Wait for replication interval and then perform a database download. Applies to adds and deletes.
Floor	Yes	Yes	No action required.
Intrusion Zone Form	No	No	
Manual Control Form	Yes	Yes	No action required.

Table 25. Global configuration Regional rules (continued)

Form	Updates allowed in remote Regions?	Deletions allowed in remote Regions?	Comments
Controller Form	Yes	Yes	**Editing a controller in a remote Region**: Wait for replication to occur and then perform a database download to that controller. If the user changes the host name to a remote client, wait for replication to occur and then restart the hosting client's services. ***Adding a controller in a remote Region***: Wait for replication to occur and then restart services on the remote client.
Mode Schedule Form	Yes	Yes	***Updating remote Regions***: Wait for replication interval and then perform a database download. Applies to adds and deletes.
Override Form	Yes	Yes	No action required.
Reader Form	No	N/A	
Time Schedule Form	Yes	Yes	**Updating remote Regions**: Wait for replication interval and then perform a database download. Applies to adds and deletes.
Tour Point Form	No	N/A	All tour points must be associated with controllers within the same Region.

Replication and synchronization conflicts

Conflicts with this application replication are rare but can occur. A conflict occurs whenever two users in different Regions simultaneously update a field on an individual record; or update a record at a Global Database Server computer and a Regional Database Server computer during synchronization.

For example:

Region 1 revises an address from 4444 SW 8th St. to 5544 SW 8th St.

Region 2 revises an address from 4444 SW 8th St. to 6544 SW 8th St.

There are now two different values in the same field of the same records in two different regions. Each region’s scheduled SQL Server Merge Agent activates the merge process and the changes are sent to the Global Server.

- If both updates arrive at the Global Server during the same synchronization process, the SQL Server detects which update arrived first and that update is successful.
- If the update at Region Two arrived before the update at Region One during the same synchronization process, then Region Two's update is successful. The address is updated to 6544 SW 8th Street on both Region One and Region Two. Keep in mind that conflicts can only occur during the same synchronization process.
- When the Global Server and Regional Server are connected and synchronization occurs, the SQL Server Merge Agent detects conflicts and then determines which data is accepted and propagated to other sites based on the first record to successfully reach the Global Server.

Note:

1. The synchronization processing time depends on how much data needs to be synchronized and the performance of your system.

2. Using Windows, we recommend that you synchronize time settings on the computers within your Global configuration.

3. When re-assigning devices such as controllers or DVRs across regions, you must stop and restart services, first on the original owner of the devices and then on the computer to which the devices are newly assigned. You must allow sufficient time for data replication to complete across all affected regions before restarting services on the newly assigned computer. Verify that devices are online and operable following the re-assignment.

Define facilities

Use the Facility form, Places & Policies group, to define facilities. Your database can be partitioned and related records can be grouped. These groupings are called facilities. If facilities are used, you must create Facility definitions in the FCWnx system.

Note: A facility option can be designated on MOST forms throughout the system and any number of facilities can be defined.

- Usually, the system administrator is assigned to all facilities.
- Operators can be assigned to one or more facilities and can choose which facilities to be active at any given time.
- All records have the default Ignore Facilities, which means the records are not under facility protection; therefore, those records are visible to all operators.

Also, refer to an expanded facility definition in the *Glossary on page 377*.

Facility tab

Use the field on this tab to create facility records.

Figure 13. Facility tab

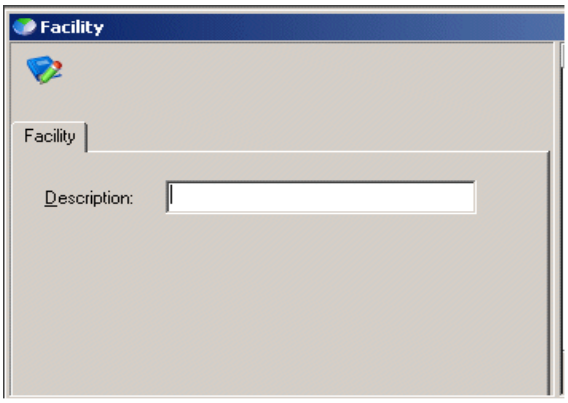


Table 26. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. Enter a description that uniquely identifies location or function of the facility.
Save	Click to save this record.

How to

1. Click the add icon to begin a new facility record.
2. Enter a unique description in the **Description** field. This may be a building name or location such as `FAU Campus Office Building 3`.
3. Click **Save** before you exit this tab.

Identify and configure clients

Use this form, in the Administration group, to add a client to the FCWnx network or assign backup clients.

Note: Only systems licensed for Client Redundancy have the ability to select backup clients.

Table 27. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. Enter or edit a unique description for the client you are adding. If you do not enter a description, this field automatically populates with the PC Name selected on the Client tab. **Note:** Global Client Descriptions: We recommend that your client description include a meaningful name of the Global or Regional Database Server computer. When the description displays on the Client Monitor form, the Global and Regional Server are easily identifiable. E**xample Description**: `bcttestpc(client to bcteeserver)` where `bcttestpc` is the name of the client computer and `bcteeserver` is the name of the Regional Database Server for this client.
Facility	A facility option can be designated for your new client record from the Facility drop-down list.

Note: You must restart the FCWnx client program for changes to the Auto logoff selection to take effect.

Networking

FCWnx requires that you set up a network protocol to allow the server and clients to communicate. FCWnx uses the TCP/IP network protocol.

You need to validate visibility and connectivity to the client and servers by name resolution. (FCWnx uses PC Names only.) The following describes two ways to validate operations:

- Invoking Ping: Select **Start**, then **Run**. At the Open field, enter `command`. A DOS-like window opens. At the prompt, enter `ping pcname` where pcname is the name of the PC to which you are validating visibility and connectivity. If you receive a response of an unknown host, you need to re-examine you TCP/IP configuration. If you receive a reply, the client/server is online and available for connection.
- Start, Run, PC Name: Select **Start**, then **Run**. At the Open field, enter `//pcname` where `pcname` is the name of the PC to which you are validating connection. If the connection is valid, you see the shared folders on the remote PC.

Note: If you are using Token Ring and/or TCP/IP, you are encouraged to contact your system administrator for local requirements and restrictions.

Client tab

Use this tab to configure a client record.

Figure 14. Client tab

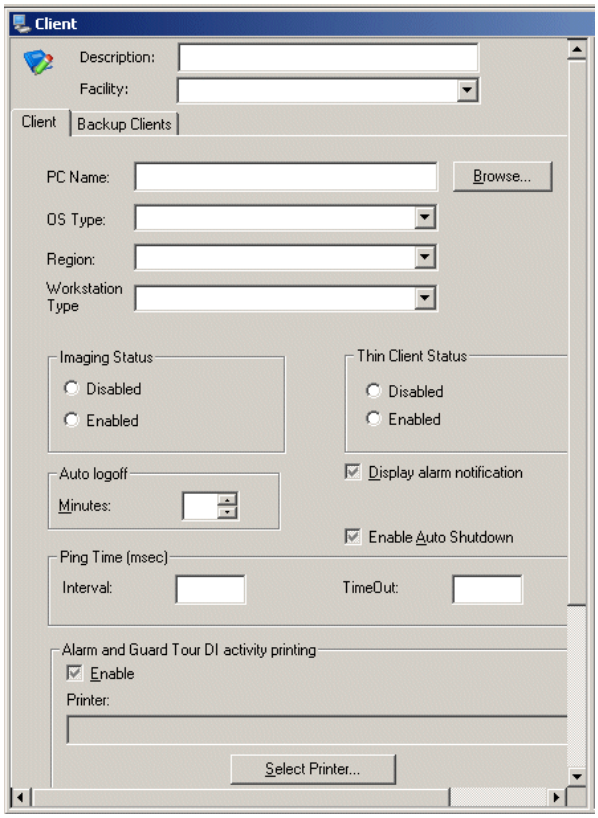


Table 28. Form fields

Element	Description
PC Name	• When creating a new client record, click **Browse** to display a Select Client window, listing all computers found on your network by PC name. (FCWnx uses PC names only.) To add a client, select the computer name from the list and click OK. You can add as many clients as you want but you are limited to the number of licensed clients connected to the network at one time. The number of client licenses presently active and connected to the FCWnx system can be found on the Client Monitor form. • By default, when an existing client record displays, PC Name is read-only and not available for edit. • Client computers to which devices are associated, cannot be deleted. The devices must be removed or assigned to another client before this client can be deleted. • Client computers assigned as backup clients cannot be deleted. You must first un-assign this client from the Backup Clients list on the Backup Clients tab, and then delete.
Region	This field is available only when you first open the Client form, and BEFORE you initiate a Search. To locate a particular Server or client, you are able to select a Server name from the Region drop-down list. The field default displays the Database Server computer name. The clients associated with the selected Region display in the right windowpane. (If you click **Search** immediately after you open the Client form, this field displays the default Server name and is unavailable for selection.)
Workstation Type	Select from the drop-down list of available workstation types: • Administration: This is the default for new installations and new client workstation records. This configuration allows full functionality except monitoring/unmonitoring alarms, opening/closing doors, and activating/deactivating DOs that belong to a *SCIF* configuration. • Operator: This configuration allows this client workstation to monitor alarms, activity functions, Graphics Console, and Video Console. • *SCIF*: *(This selection is for system with ACU controllers.)* If this is a SCIF workstation, enable SCIF on the Area form. This configuration allows this client workstation to do everything that an Administration workstation can perform as well as monitoring/unmonitoring alarms, opening/closing doors, and activating/deactivating DOs that belong to a SCIF configuration. • Not Applicable: This option is used for CCTV workstations only. During a database conversion from an earlier version of FCWnx, workstation types default to Administration.
Imaging Status	• Disabled: Select if you want to disable Imaging in order to enable another client computer. • Enabled: Select to enable Imaging here but you are limited to the number of licensed Imaging stations enabled at one time. The number of Imaging licenses presently active can be found on the Client Monitor form.

Table 28. Form fields (continued)

Element	Description
Thin Client Status	An FCWnx client computer can also be a thin client. A thin client has Terminal Services and/or Citrix Server software installed. If the FCWnx client has Thin Client Status of Enabled, other computers can connect to the Terminal or Citrix Server on the FCWnx client and run FCWnx. • Disabled: Select if you want to disable the thin client option. • Enabled: Select to enable the thin client option at this FCWnx client. The number of thin clients you can enable is controlled by the number of thin client licenses you have. Refer to the Client Monitor form, which displays the number of thin client licenses presently available and in use.
Auto Logoff	Select the number of minutes the system waits since the last action was taken before logging off the current operator. To turn off the auto logoff feature and remain permanently logged in, enter 0 (zero). The default setting is 20 minutes. **Note:** You must restart the FCWnx client program for changes to the Auto Logoff selection to take effect.
Display Alarm Notification	Enable this field if you want an alarm dialog box to display whenever an alarm occurs, based on facilities available to the current operator.
Client Region Failover	**Note:** This checkbox displays only on a Global configuration. This checkbox is applicable to FCWnx Global configurations. When displayed, the default state of this checkbox is selected and grayed out. If a database failure occurs at the default Regional Database Server, this client would automatically fail over to a configured backup Regional Database Server. Backups are configured on the Region form, Backup Regions tab. Click the checkbox to clear and disable the automatic failover option. You might choose to clear this checkbox to prevent nonessential client failover.
Enable Auto Shutdown	FCWnx services automatically shut down when a client closes the FCWnx application and meets all the Auto Shutdown criteria. Services automatically shut down when a client closes the FCWnx application and meets ALL of the following criteria: 1. Does not host any controllers or DVRs. 2. Does not have any API connections. 3. Is not a Thin Client. 4. Is not a backup client or have any backup clients of its own. 5. Is not a CCTV client. 6. Is not hosting a Guard Tour. 7. Client form Enable Auto Shutdown is selected. Licensing controls the number of computers that can host FCWnx sessions. If a particular client is shut down, that license is now available for another client computer to be designated an FCWnx client and run the FCWnx application. If not all clients require a license at the same time, you can enable and disable the license for the appropriate computers.

Table 28. Form fields (continued)

Element	Description
Ping Time (msec)	• Interval: This is the interval of time a broadcast message is sent, indicating a client is online. (Default is 40,000. This field does not accept an entry less than 5,000 msec.) • Timeout: The amount of time that elapses between broadcast message and response before the system considers a client offline. The client status display on the Client Monitor form. (Default is 120,000. This field does not accept an entry less than three times the Interval amount specified.)
ACTIVITY PRINTING **CAUTION:** Windows 2003 or WinXP Professional Operating Systems: If the printer you have selected is hosted by a computer running a Windows 2003 or WinXP Professional operating system, you must add permissions to share this printer to the FCWnx network. At the host computer, navigate to your printer property settings. On the Security tab, add ANONYMOUS LOGON or NETWORK to the Security permissions. **Note:** Printers can be connected to the Server or any client computers. The defaults of the activity printer selections are cleared on any newly configured system. Any system with a newly converted database requires reconfiguration of these activity printer selections at each client workstation.	
Alarm and Guard Tour DI Activity Printing	You must enable, select a printer, and route alarms to a printer in order for alarm activity to print. • Enable: Select this check box to print alarm activity. If you select to enable alarm activity printing, you must select a printer in order to save this record. • Printer: Displays the currently selected printer to which alarm activity prints. This may be the same or a different printer than that used for credential transactions. • Select Printer: Click this button to select a printer to which alarm activity prints. **Note:** Print Alarms At Host must be selected on the Alarm form in order for alarm activity to print.
Credential and Zone Activity Printing	You must enable, select a printer, and route credential activity to a printer in order to print credential transactions. • Enable: Select this check box to print credential activity. If you select to enable credential and zone activity printing, you must select a printer in order to save this record. • Printer: Displays the currently selected printer to which credential transactions prints. This may be the same or a different printer than that used for alarm activity. • Select Printer: Click to select a printer to which credential transactions prints. **Note:** 1) Printer options must be selected on the Reader form in order for credential transactions to print. 2) All zone activity transactions print and do not follow routing or schedules assigned to a reader.

How to

1. Review *Table 28 on page 50* before you begin completion of this form.
2. Click **Browse** to display a **Select Client** window.
3. Proceed to complete the remainder of the options according to your system, this client, and the guidelines in *Table 28 on page 50*.
4. Repeat these steps for each client that you are defining.

Backup Clients tab

Note: This tab displays ONLY at client computers that are licensed for Client Redundancy.

Use this tab to configure your backup clients that would take over the devices in case of a failure at the default client computer.

Figure 15. Backup Clients tab

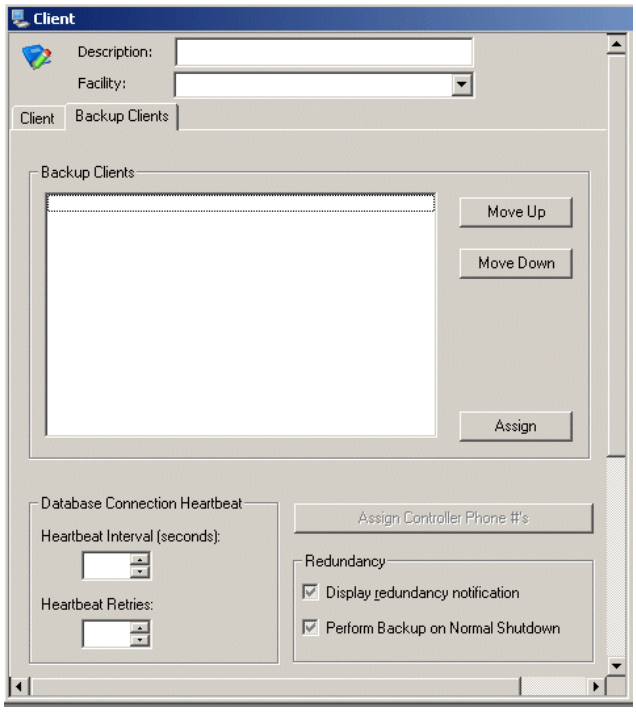


Table 29. Form fields

Element	Description
Backup Clients	This list box displays those clients you have assigned to take over control of any nondirect controllers and DVRs in the event of a failure at the default client computer. The order in which the client names display, determines which client is next in line to take over. The timing of the takeover is a variable. Backup clients must be online (FCWnx services are running). In the event of a failover, the client entry includes the client computer name, and then the total combined number of DVRs and controllers of the default client and backup client. • Move Up: Select and click to move this client up the list. • Move Down: Select and click to move this client down the list. • Assign: Click to display a Backup Clients Assignment dialog box, listing client computers found on your FCWnx system. Those computers selected and assigned when you close the dialog box, display in the Backup Clients list box.

Table 29. Form fields (continued)

Element	Description
Database Connection Heartbeat	The FCWnx system validates communication with backup clients by pinging (sending continuous broadcast messages). If there is a communication failure between the default client and the backup client, the backup client looks for a Heartbeat (time stamp in the database) as an indication that the default client is online and connected. a) If a Heartbeat exists, the default client is "alive" and the backup client does not initiate takeover of the devices from the default client. b) If a Heartbeat does NOT exist, the backup client initiates takeover of devices from the default client. The backup client uses the following values: • Heartbeat (seconds): Select a computer from the Backup Clients list box and assign an interval of seconds (the range is 10 to 180) between Heartbeat checks. The default number is 60 seconds. This number can be reset at any time. • Heartbeat Retries: Select the number of times (the range is 1 to 3) this backup client checks for a Heartbeat stamp in the database, before initiating takeover of devices from the default client. The default number of retries is 2.
Assign Controller Phone #s	This button is only available after completing the following: • Backup clients have been assigned. • The currently displayed client is host to Dial-up and/or Network + Dial-up controllers. In the event of a system failure, the controllers associated with the failed client must have available telephone numbers to reach the backup client. Click to display an Assign Controller Phone Numbers dialog box. **Assign Controller Phone Numbers Dialog Box** This dialog box allows you to select a controller from the Dial-Up Controller drop-down list and assign telephone numbers used by this controller to reach the selected backup client. • Click to display a list of only Dial-Up and Network + Dial-Up controllers for the client record displayed. • When you select a controller from the drop-down list, the Phone numbers to reach backup client xxxxxx fields become available for entry (where xxxxxx = name of selected client in the Backup Clients list box). • When you enter a number in the first field, the Save button becomes available. • All Number fields must contain a telephone number of up to 20 digits. If there is only one telephone number for this controller to reach the backup client, repeat this number in all four fields. (If you click Save after completing the first Number field, the system automatically completes all Number fields with a duplicate number.) • Click **Save** to save the list of telephone numbers. The controller dials the number in Number 1: and then tries the others in numerical order until connection it made. • Click **Close** to exit the dialog box. • Repeat the process for each controller in the Dial-up Controller drop-down list. • Click **Save** to save this client record.

Table 29. Form fields (continued)

Element	Description
Redundancy	**Display Redundancy Notification:** By default, this check box is checked. If licensed for Client Redundancy, this check box must be selected to generate a notification message that displays at all clients (based on facilities available to the current operator), when: • A client failure occurs. • A device takeover succeeded. • A device takeover did not succeed. [Select Details button for explanation.] (If the first-in-line backup client is not available, a second backup client takes over control of devices and a notification message displays, updating you.) • Recovery of the default client and transfer of devices failed. [Select Details button for explanation.] • Recovery succeeded. If you clear this check box, you do not receive a notification message; however, indication of a takeover displays on the Client Monitor form. **Perform Backup on Normal Shutdown**: This check box is unchecked or clear by default. Select this check box to trigger the takeover, by a specified backup client, of devices associated with a client during a normal shut down. If your system is not licensed and you are operating in *demo mode*, this option is not available for selection.

How to

1. Verify that you are licensed for Client Redundancy.
2. Review *Table 29* before you begin configuration of this form.
3. Proceed to configure your backup clients according to your system and the guidelines in *Table 29*.
4. Click **Save** before you exit this tab.

Takeover and recovery timing

Client device takeover occurs following communication breakdown between the default client and the backup client, under the following circumstances:

1. If network problems should occur.
2. If a default client computer crashes.
3. Immediate takeover following normal shutdown, ignoring any other settings. This occurs if FCWnx services are stopped and Perform Backup on Normal Shutdown is enabled on the Backup Clients tab of the Client form.

When a backup client detects that the default client is offline, an approximate takeover timing can be predicted using the following formula:

Ping Interval x Retry Count of Default Computer + Heartbeat Interval x Heartbeat Retry Count of Default Computer + Network Delays

All these values are configured on the Client form.

The values in this formula can be adjusted to achieve a shorter or longer takeover scenario.

Client redundancy overview

The FCWnx software system is responsible for processing alarm and credential transactions from devices like controllers and DVRs. The software is responsible for writing these transactions to the database. A device such as a controller or DVR is hosted by a single FCWnx client. The client could potentially be responsible for hundreds of devices and can be a single point of failure. Although devices like the controller are designed to run without the host software running for days, eventually memory is going to be filled up at the controller end. The redundancy feature in FCWnx is designed to address this condition. Clients can be configured to be backed up by other clients so that, in case of the default hosting client (called the primary client) being disabled, one of the backup clients takes over all its devices. This is designed to work automatically without any operator intervention so the system continues to work efficiently. One of the backup clients performs the role of the default client until the default client is back up and running. The devices that can be taken over at present are all DVRs, network controllers, dial-up controllers, and network + dial-up controllers. Direct controllers cannot be hosted by any other than the default client computer.

The table below assists you to find the areas in this manual that relate to the redundancy feature.

Table 30. Configuring client redundancy

Element	Description
	Reference Topics:
Configuring Client Redundancy:	
Am I Licensed for Client Redundancy?	*Licensing on page 3*
How do I configure backup clients for redundancy?	*Backup Clients tab on page 53*
What controllers are supported?	*Backup Clients tab on page 53*, Assign Controller Phone #s
What are the limits on controllers and DVRs?	*Backup Clients tab on page 53*
What is not permitted?	*Backup Clients tab on page 53*
When a Failover Occurs:	
Messages Displayed	*Backup Clients tab on page 53*, Display Redundancy Notification
Client Monitoring	*Client monitoring on page 300*, Active Client
How long should I wait when a failover occurs?	*Backup Clients tab on page 53*, Database Connection Heartbeat
What alarms display on the Alarm Monitor?	*Alarm tab on page 155*
What is the behavior on the Digital Video Viewer and Network List?	*Video Console window on page 209* Help
Recovery:	
Recovery Notification	• Messages: *Backup Clients tab on page 53*, Display Redundancy Notification • *Client monitoring on page 300*
How do I recover?	*Client Monitor shortcut menu on page 303*
What happens when a default client is back up?	*Backup Clients tab on page 53*, Display Redundancy Notification
What is the timing on the recovery?	*Takeover and recovery timing on page 55*

Define clients groups

This form, in the Administration group, allows you to assign FCWnx client computers into logical groups. Members of a Client Group cannot have conflicting Mode Schedules. A comment box is available to enter any special consideration or reminder for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

Note: Client groups can be assigned to specific alarm routing and bumping configurations. You may want to review the Sample Scenario in *Figure 73, Routing and bumping scenario on page 173*.

Table 31. Form fields

Element	Description
Descriptions	This field is required and accepts up to 64 characters. Enter a unique description that identifies this Client Group.
Facility	Assign a facility option from the drop-down list of available facilities. If you do not select a facility, Ignore Facilities is assigned for you.
Save	You cannot save this record until at least one client is assigned to this group on the Client Group tab.

Client Group tab

On this tab, you must assign at least one FCWnx client computer in order to save this Client Group record.

Figure 16. Client Group tab

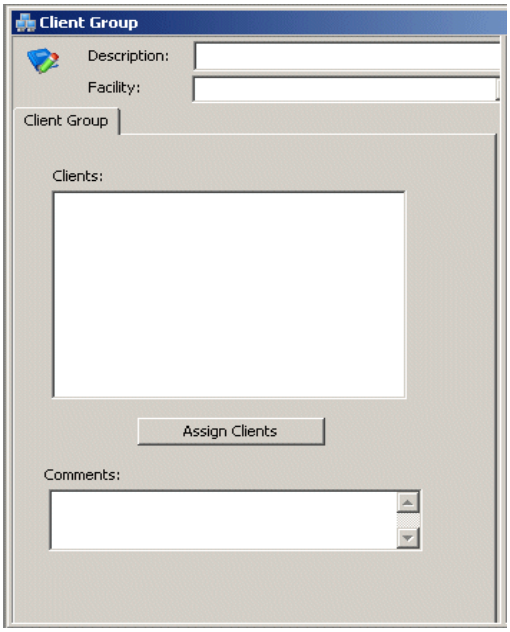


Table 32. Form fields

Element	Description
Clients	This windowpane displays the names of client computers that are assigned to this Client Group.
Assign Clients	Click to display a Client Assignment dialog box that allows you to assign FCWnx clients to this Client Group. **Client Assignment Dialog**: This dialog box allows you to select and assign FCWnx client computers to a Client Group. Only clients in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available client. • Select, and then click the left arrow to unassign a client. Click **OK** to close this dialog box and display the results in the Clients windowpane.
Comments	Use this field to enter any special consideration or reminder for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

How to

1. Review *Table 32* and click the add record icon to create a new Client Group record.
2. Enter a unique description for this group of clients.
3. Assign FCWnx clients to this group.
4. Enter a comment describing the reason for creating this group.
5. Click **Save** before you exit this tab.

Create permissions

Use the Permission Form, Administration group, to create permission records. The forms in FCWnx display an icon in the left corner indicating the permissions assigned to this operator. The form icons correspond to the icons and permissions assigned here.

- Permissions and facilities must be created before they are assigned to operators.
- Permissions are assigned to operators and define what operators can do within FCWnx.

Note: FCWnx comes with a System Administrator permission that allows full action on all forms. You can create more restrictive permissions and apply the System Administrator permission ONLY to those operators fully trained in FCWnx.

Table 33. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. Enter a unique title for this permission record.
Save	Click to save the record.

Permission tab

The forms in FCWnx display an icon in the left corner indicating the permissions assigned to this operator. The form icons correspond to the icons and permissions assigned here. During a database conversion from an earlier version of FCWnx, workstation types default to Administration.

Figure 17. Permission form

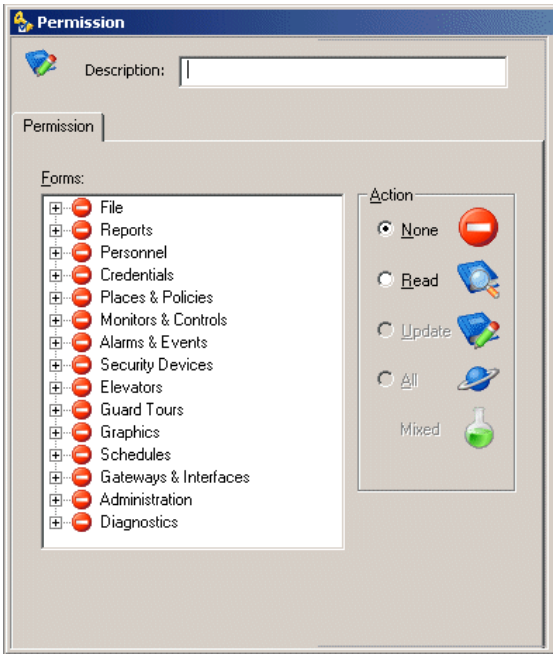


Table 34. Form fields

Element	Description
Forms	The information in the Forms windowpane can be viewed one of two ways. 1) If a + displays to the left of the form name, then additional items are available. Click + to display additional forms. You can also double-click the Forms: menu item to view the additional forms. 2) Right-click the windowpane to display the shortcut menu with these options. • **Show by Action** lists the actions (None, Read, Update, All) followed by the forms assigned to them. • **Operator** displays the Operator form, which shows permissions assigned to existing operators.
Actions	Four types of actions can be assigned: • None means that no access is given to that form. • Read means that read only access is given. The form and the associated records can be viewed but not modified. • Update means that the records on that form can be viewed and modified. • All means that the records on that form can be viewed, modified and deleted. • Mixed is not an action to be assigned. It is used only on this form to signal that any forms beneath a general title have different actions assigned.

Table 34. Form fields (continued)

Element	Description
	Note: *SCIF* Workstations: SCIF permissions OVERRIDE what is assigned on this form. SCIF permissions, depending on the type of client workstation assignment on the Client form, are as follows: • **Administration**: This is the default for new installations and new client workstation records. This configuration allows full functionality except monitoring/unmonitoring alarms, opening/closing doors, and activating/deactivating DOs that belong to a SCIF configuration. • **Operator**: This configuration allows this client workstation to view all monitors, and monitor alarms, activity functions, Graphics Console, and Video Console. • *SCIF*: If this is a SCIF workstation, enable SCIF on the Area form. This configuration allows this client workstation to do everything that an Administration workstation can perform as well as monitoring/unmonitoring alarms, opening/closing doors, and activating/deactivating DOs that belong to a SCIF configuration. **Note:** When using the API Form: Alarms, events, and functions associated with a SCIF workstation do not display and cannot be configured, monitored or controlled through an API connection unless you are at the SCIF workstation. • **Not Applicable**: Select this workstation type for CCTV interfaces. During a database conversion from an earlier version of FCWnx, workstation types default to Administration.
Save	Click to save this record.

How to

1. Review *Table 34* and click **Search** to display all existing permission records in the list box on the right.
2. Select one of the permissions.
3. Expand the Forms navigation tree to display the FCWnx forms.
4. Select a form and select one of the Actions to associate with the form and the permission you are creating.
5. Click **Save**. Notice that the icon has changed to the associated action granted to this permission.

Example: If you want an operator to monitor alarm and credential activity, select the Operation forms, then set the following actions:

- Select Activity Monitor, then select Read.
- Select Alarm Monitor, then select the action Read.
- Select Manual Control, then select Update. (Selecting Update for Manual Control allows the operator to manually change the DO state.)
- Select Digital Output Status, then select Read.

On the Personnel form, assign actions to allow the new permission to add persons and credentials into the database.

- Select Person, then select Update
- Select Credential, then select Update.

Determine and create operators

An operator is an individual who can access and control the FCWnx software. Once a facility is assigned to an operator, it displays in the Facility field after a successful login by that operator. Operators are associated with permissions that define the actions operators can perform within FCWnx. Use this form to configure operator records.

Table 35. Form field

Element	Description
Facility	A facility can be assigned from the drop-down list of available facilities for assignment by this operator.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Operator tab

Use this form, in the Administration group, to create operator records that allow individuals to access the FCWnx program.

Figure 18. Operator tab

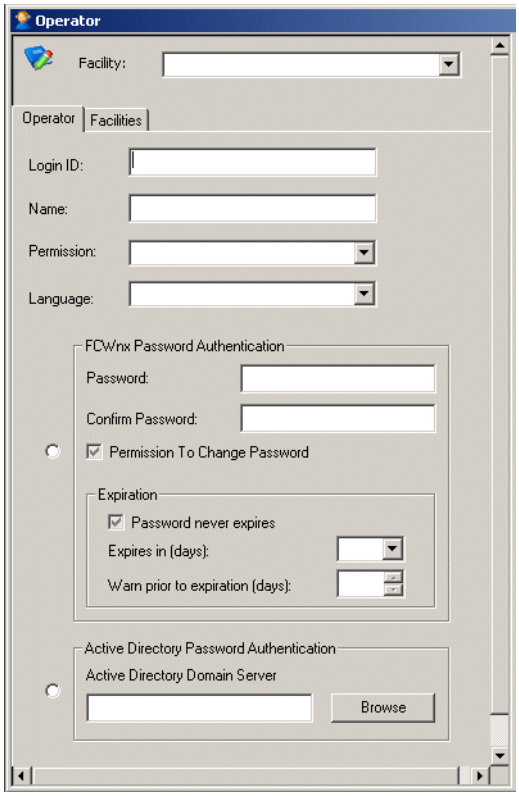


Table 36. Form fields

Element	Description
Login ID	Assign and enter a login ID for this operator.
Name	Enter the name of the operator.
Permission	From the drop-down list of previously created permissions, assign a permission to this operator.
Language	Click the drop-down list to display a list of available languages installed on your system. Select the language with which this operator accesses and operates the FCWnx system. Also, see *Multiple language support on page 64*.

Table 36. Form fields (continued)

Element	Description
Facility Commander Password Authentication	**Note:** This grouping is selected by default. If this option is selected, Active Directory Password Authentication is not available. **Password**: Enter the password this operator uses to log in to FCWnx. This field accepts a minimum of 1 and maximum of 20 characters. Additional password preferences were set on the Password tab of the Preference form. **Confirm Password**: Enter the password a second time exactly as entered in the Password field. **Note:** **IMPORTANT**: The assigned password cannot match any previous five passwords. Operator login passwords are case sensitive. Because it is difficult to retrieve, it is important for operators to remember their assigned password or write it down and store in a safe place. **Permission to Change Password:** If this check box is selected, the operator indicated in this record has the option to change the login password. If this checkbox is clear, the option to change the login password is unavailable to this operator. **Expiration** **Password never expires**: If selected, the password assigned to the current operator never expires. If this checkbox is not selected, the two remaining fields are available. **Expires in (days)**: This field is not available if Password never expires is selected. From the drop-down list of available time periods, select number of days that pass before the password assigned to the current operator expires. The selections are 30, 60, 90, 120, or 180 days. **Warn prior to expiration (days)**: This field is not available if Password never expires is selected. Enter or select the number of days before the expiration of the operator's password that a warning message displays, indicating that the assigned operator password is about to expire. The number of days in this field must be less than the number of days selected in the Expires in (days) field. When this option is selected, a message displays when logging in to FCWnx, informing the operator of the number of days until the password expiration occurs. - Select **Yes** to change the password immediately. - Select **No** to continue using FCWnx and change the password at a later time. - If the password has expired, the operator can no longer log on. - If the operator does not have permission to change the password, the operator is instructed to contact the FCWnx Administrator to change the password. These warnings are logged as operator history transactions and can be retrieved by running a report on operator actions, using the System Operator filter for Login Name.

Table 36. Form fields (continued)

Element	Description
Active Directory Password Authentication	**Note:** If this option is selected, FCWnx Password Authentication options are not available. The Active Directory domain controller authenticates this operator name and password. (The operator added to FCWnx must be a valid operator in the domain computer.) The next time this operator logs in to FCWnx, for this feature, the user must log in to the domain when logging into the computer, for access to the FCWnx system. (The user cannot log in to the local computer; the user logs in to the Domain.) FCWnx validates the user login ID and password against the specified Active Directory, and not the FCWnx database. This authentication overrides any password preferences entered through FCWnx. **Browse**: Click to display a list of Active Directory Domain Controller Servers. Select the Domain Controller Server computer that authenticates the FCWnx operator, and controls the users, passwords, and the FCWnx system to which you are assigning this operator. The selected Server computer authenticates this operator name and password. The selected Server name now displays in this field.

How to

1. Review the guidelines in *Table 36* and complete this tab.
2. Enter the Login ID associated with this operator record.
3. Enter the name of the operator.
4. Select a permission from the drop-down list associated with this operator.
5. Select a language from the drop-down list associated with this operator.
6. Using the guidelines in *Table 36*, complete the Facility Commander Wnx Password Authentication grouping or remove the selection and complete the Active Directory Password Authentication.
7. Click **Save** before you exit this tab.

Multiple language support

Note: Some items you should note about national language support:

- English is the default language and is always installed.
- The Windows operating system should be installed for the specific language chosen for this application. For example, if running this application in Spanish, Windows Spanish should be installed.
- This application starts in the language of the operating system. For example, if Windows Spanish is installed, this application starts in Spanish.
- Initially, there is only one operator provided with the system: an English language operator with the login ID of secure and a password of master. The very first login to this application MUST be done under this operator. If the operating system is in a language other than English, there is a slight delay in

bringing up this application main menu since the English help files must be copied into the main directory.

- To set up a different language operator, you must go to the Operator form, and add an operator with the desired language. A combo box on the operator form lists the available languages for the system. A language must be selected prior to saving the operator's record.
- Multiple language logins are supported without having to restart the application. Log out and log back in as the new operator. (There is a slight delay in bringing up this application main menu since the new language help files must be copied to the main directory.) This application along with the Help files display in that operator's language.
- Any data entry done after the operator's login is in the operator's language. For example, when adding a controller, all the attached device descriptions are in the operator's language.
- There are several areas that are not translated, such as certain Windows messages and certain parts of the reporting functions.
- If a particular language is not provided by GE Security, the installation takes place in English and the application runs in English.

Facilities tab

Use this tab to assign facilities to an operator.

Figure 19. Facilities tab

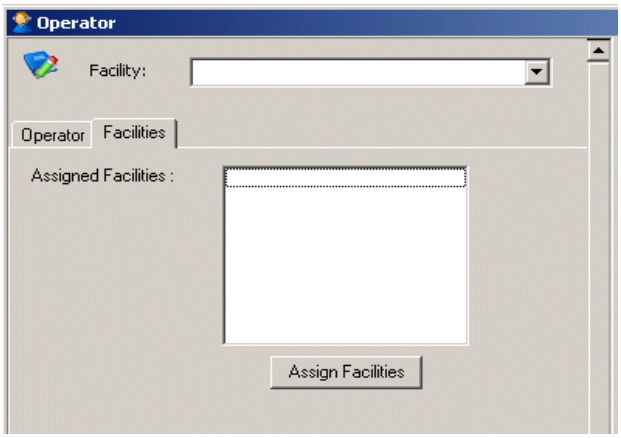


Table 37. Form fields

Element	Description
Assigned Facilities	This list displays the facilities assigned to the current operator.
Assign Facilities	Click to display the **Facility Assignment** dialog box that allows you to assign facilities to this operator.
Facility Assignment	This dialog box lists the facilities available for assignment to this particular operator. • Facilities can be moved to the Assigned list by selecting and clicking the appropriate arrow. • Facilities can be removed from the Assigned list by selecting and clicking the appropriate arrow.

How to

1. Review the guidelines in *Table 37* and complete this tab.
2. Click **Facility Assignment** to display a list of facilities.
3. Assign those facilities that you want associated with this operator.
4. If you remove a facility from this operator record, that facility now displays in the Available list.
5. Click **OK** to accept and close the Facility Assignment dialog box.
6. Click **Save** before you exit this tab.

What's next?

Proceed to *Chapter 3, Schedules on page 67*.

Chapter 3 Schedules

This chapter provides an overview of Facility Commander Wnx Edition time, event, and mode schedule configuration.

In this chapter:

Overview 68
Define time schedules 68
Define event schedules 71
Configure event notifier 73
Define mode schedules 77
What's next? 81

Overview

This chapter provides an overview of Facility Commander Wnx Edition schedule configurations.

- The maximum number of combined schedules (time, event, and mode) for any one *Micro controller* is 1,023.
- The maximum number of combined schedules (time, event, and mode) for any one *ACU controller* is 253.

Define time schedules

The Time Schedule form, Schedules group, is used to create time schedules.

Note: Time schedules define the day(s) of the week and time(s) an action starts AND ends.

- A time schedule determines when an action occurs, such as turning on alarm monitoring.
- Time schedules are comprised of one or more time intervals (start and stop times) on one or more days of the week and modes.
- Time schedules differ from events in that time schedules define an interval of time over which an action occurs while events schedule when an action occurs.
- A time schedule can define an action multiple times, even within the same day.
- Once a time schedule is defined, it can be applied anywhere time schedules are used.
- Time schedules are not partitioned by facilities. If you need to use facilities in your system, create an event for each facility. Use the facility description as a prefix on the Time Schedule form, Description to indicate to which facility this event applies.

Note:

- Deleting a time schedule does not affect the current state of any devices currently under the effect of the deleted schedule.
- Time schedules assigned to a Public Access area on the Elevator form cannot be deleted.
- If you delete a schedule while it is currently active, this schedule never ends.

Table 38. Form fields

Element	Description
Description	This field accepts 64 characters. Enter a meaningful and unique description for this schedule.
Facility	A facility option can be designated for your new record from the Facility drop-down list.
Save	This record can be saved following a selection of Start Time or Stop Time.

Time Schedules tab

Note: Deleting a schedule does not affect the current state of any devices to which this schedule is associated. Any devices currently in a state associated with the deleted time schedule remains in that state until changed manually or by another schedule.

Figure 20. Time Schedules tab

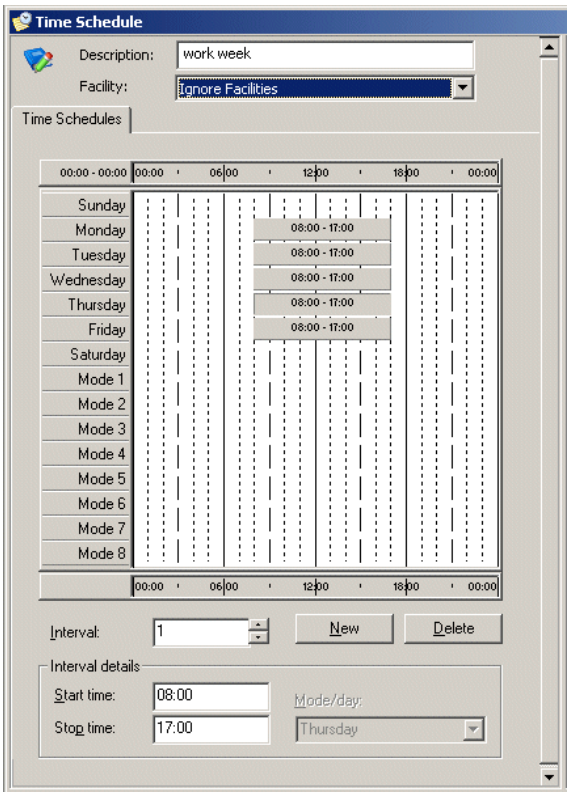


Table 39. Form fields

Element	Description
TimeChart	In line with the appropriate day of the week, left-click the desired start time, continue to hold the mouse button, and drag the bar to the right until you reach the preferred stop time. This creates a bar that indicates one interval of time during this time schedule. Continue to create intervals on the time chart for appropriate days of the week associated with this time schedule. **Note:** The time 00:00 is the same as 24:00 of the same day. For example, Saturday at 00:00 on the left side of the chart is the same as 00:00 on the right side of the chart.

Table 39. Form fields (continued)

Element	Description
Intervals	Each bar on the time chart indicates an interval of time. The system assigns a number to each interval as it is created on the time chart. This is the number displayed in the Interval field. If you select an interval on the time chart, the details of the selected interval display in the Interval details. **Note:** ACU controllers support eight Time Schedule intervals. **Even if you save a Time Schedule record with more than eight intervals, ONLY EIGHT intervals display on the Area tab of the Access Right form and the Area tab of the Area form.**
New	Click to create a new interval on the time chart. You may have to adjust the times.
Delete	Click this button to delete an interval from the time chart. • Select an interval on the time chart and click **Delete**. • Using the arrows beside the Interval field, scroll to the appropriate interval number and click **Delete**. • Select and enter an interval number by typing over the existing number in the Interval field and click **Delete**.
Interval Details	The controls in this section are not needed in most circumstances. Use details to verify that your selections match the calendar display. **Start time**: Displays the time on which the selected time interval begins. **Stop time**: Displays the time on which the time interval ends. **Mode/day**: Displays the mode or day on which the interval schedule occurs.

How to

1. Review the guidelines in *Table 39* and complete this tab similar to the following steps.
2. Enter the description 'Time Schedule - 8-5' in the 'Description' edit box.
3. Create 5 intervals Monday - Friday from 8:00am (08:00) to 5:00pm (17:00).
4. Create 1 interval for Mode 7 from 8:00am (08:00) to 5:00pm (17:00).
5. Click **Save** before you exit this tab.

Note: You need to assign this time schedule to a device such as a reader. Note the example below.

Example: **`BocaHQ Normal Workweek`** would indicate a facility-specific time schedule, where BocaHQ refers to a geographic location. For example, you can create a time schedule that is active Monday through Friday 8:00 A.M. to 5:00 P.M. This particular time schedule (perhaps called Normal Workweek) can be applied to the Access Right for Permanent Employees and you may want to turn off alarm monitoring during those hours.

1. On the Reader form, select Building 1 Lobby Door reader record.
2. On the Functions Schedule tab of the Reader form, select a Door schedule entitled **`BocaHQ Normal Workweek`** from the drop-down list of Time schedules.
3. Select **Unlock**.

4. The result is that the selected reader unlocks the door based on the time schedule as configured for BocaHQ Normal Workweek.

Define event schedules

Use this form, in the Schedules group, to create event schedules. Events define the day(s) of the week and time(s) an action starts.

- An event schedules when an action occurs, such as resetting an anti-passback status, dialing a controller, or changing a physical reader type.
- There is no end time associated with an event.
- Events are comprised of one or more times on one or more days of the week and modes.
- Events differ from time schedules in that events define when an action occurs and time schedules define an interval of time over which an action occurs.
- An event can schedule an action multiple times, even within the same day.
- Once an event is defined, it may be applied anywhere events are used.

Note: Deleting an event schedule does not affect the current state of any devices currently under the effect of the deleted event schedule. An event remains active until another event occurs to change it.

Table 40. Form fields

Element	Description
Description	This field accepts 64 characters. Enter a meaningful description for this event.
Facility	A facility option can be designated for your new record from the Facility drop-down list.
Save	This record can be saved following a selection of Start Time or Stop Time.

Event Schedules tab

Use this tab to create an event. If you need to use facilities in your system, create an event for each facility. Use the facility description as a prefix on the Event Schedule form, Description to indicate to which facility this event applies.

The time 24:00 is the same as 00:00 of the next day. For example, Friday at 24:00 is the same as Saturday at 00:00.

Figure 21. Event Schedules tab

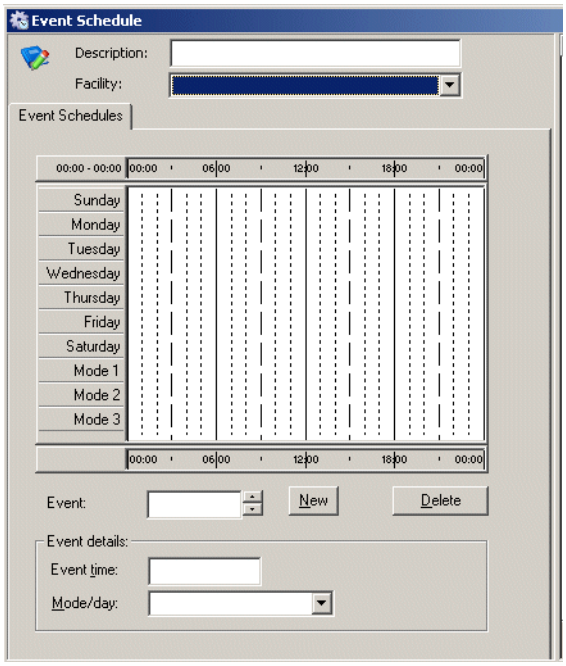


Table 41. Form fields

Element	Description
Time chart	Click your mouse pointer on the time and day of the week/mode. This creates a diamond that indicates that the event occurs at that time and that day of the week/mode. Note that the current event's diamond is selected. Time is displayed in half-hour increments by default. To change the display increment, click and hold the left mouse button on the right end of the bottom time bar then move the cursor to the left until you are at the desired time increment. Then, click the desired time. If the point is incorrectly located, you can drag and drop the point to the exact location you want.
Event	Displays the number of the event. The numbers start with one for the first event and increment consecutively for each event thereafter. **New**: Click to create a new event. (Ignore. This feature is not implemented in the FCWnx application at this time.) **Delete**: Click to delete an event. You can delete a schedule that is currently in effect. The Delete button removes the most recent point you have created. If you continue to click Delete, additional calendar points disappear in the order they were created. Deleting a schedule does not affect the current state of any devices to which this schedule is associated. Any devices currently under the effect of the deleted schedule remain in that state until changed manually or by another event schedule.
Event Details	The controls in this section are not needed in most circumstances. Use details to verify that your selections match the calendar display. • Event time: Displays the time at which the event occurs. • Mode/day: Displays the mode or day on which the event occurs.

How to

1. Review *Table 41* and create an event using the guidelines listed.
2. Click **Save** before you exit this tab.

Note: You need to assign this event schedule to a device such as a controller (see Controller form, Events tab) or a reader (see the Reader form, Reader Type Events tab).

Example: **`BocaHQ Weekend Begins`** indicates a facility-specific event schedule, where **`BocaHQ`** refers to a geographic location. For example, you could create an event beginning each Friday at 6:00 P.M. that resets the APB status and the T&A status, and sets a reader to Credential and Keypad. Employees coming into the building after 6 P.M. on Friday are required to present their credential and then key in a PIN number to enter the building.

Remember that an event stays in effect until another event occurs to change it. Therefore, in our example, a second event needs to be scheduled to change that reader back to Normal on Monday morning.

Configure event notifier

Note: Keep in mind that you can use an SMTP Server such as Lotus Notes or SendMail, or even online mail services such as Yahoo, to send e-mail. Contact your local network administrator to get the SMTP server name to be used. E-mail sent by FCWnx are sent through this SMTP Server. If you receive an error message or have a problem with your configuration, contact your local network administrator.

The Event Notifier form, Alarms & Events group, allows you to:

- Assign those alarms and reset conditions that trigger an e-mail message.
- Assign people who are to receive that e-mail notification of the alarm/reset condition.
- Format the style and content of the e-mail message.

Table 42. Form fields

Element	Description
Description	Assign a unique title to this record. This is a required field and accepts 64 characters.
Facility	A facility option can be assigned from the drop-down list of available facilities. The default of Ignore Facilities is assigned if no other selection is made.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Alarm Selection tab

The Alarm Selection tab allows you to assign alarms in this operator's facility that trigger an e-mail message.

Figure 22. Alarm Selection tab

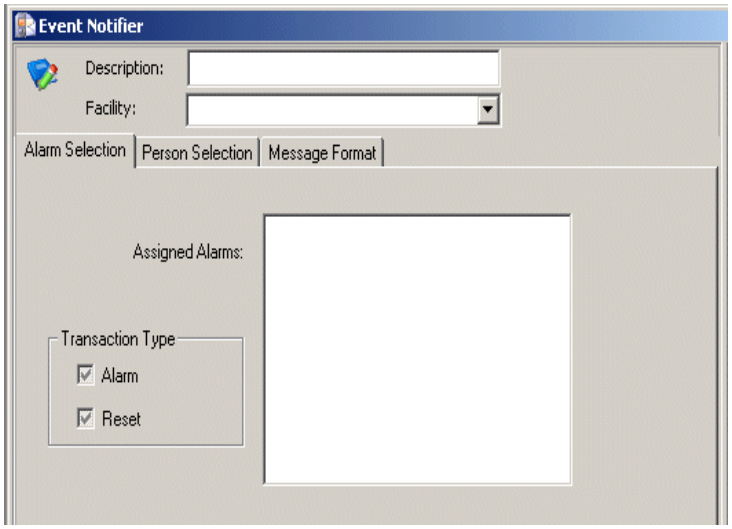


Table 43. Form fields

Element	Description
Assigned Alarms	This windowpane displays any previously assigned alarms.
Assign Alarms	Click to display the Alarm Assignment dialog box that allows you to select specific alarms that trigger e-mail notifications. Click **OK** and the selected alarms display in the Assigned Alarms windowpane. **Alarm Assignment dialog box** This window displays a list of alarms in the FCWnx system for the facilities available for assignment by this operator. All alarms display. If this is a Global system, alarms are not filtered by Region. • Select, then click the right arrow to assign an available alarm. • Select, then click the left arrow to unassign an alarm. Click **OK** to display results in the Assigned Alarms windowpane.
Transaction Type	Select one or both transaction types that trigger an e-mail alarm notification. • Alarm: E-mail notification is sent at onset of the alarm. • Reset: E-mail notification is sent when an alarm is reset. By default, no type is selected when you create a new Alarm Notifier record. A transaction type must be selected in order to save this record.

How to

1. Review *Table 43* and assign alarms that are to trigger e-mail notifications.
2. Select one or both Transaction Type options.
3. Click **Save** before you exit this tab.

Person Selection tab

The Person Selection tab allows you to assign people available in this operator's facility that receive an e-mail notification of the alarm/reset condition.

Figure 23. Person Selection tab

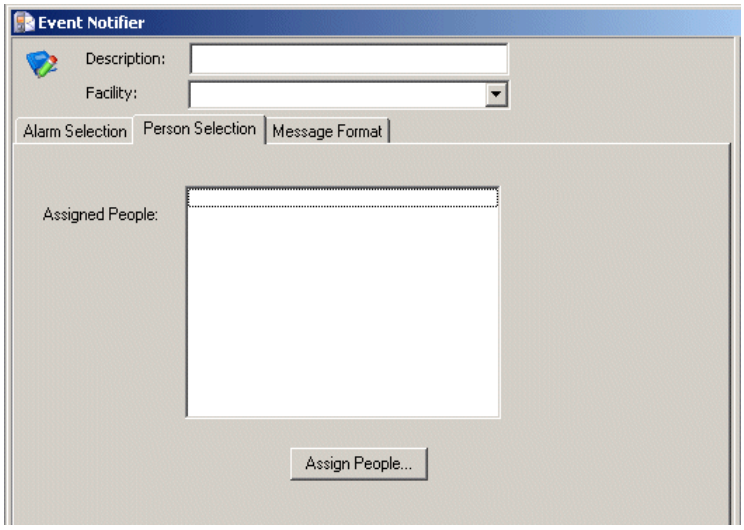


Table 44. Form fields

Element	Description
Assigned People	This windowpane displays people assigned to receive an e-mail alarm notification.
Assign People	Click to display the People Assignment window, allowing you to select specific people that receive an e-mail alarm notification. **People Assignment** This window displays a list of Person Records with an e-mail address in the FCWnx system. Only person records in the operator's facilities are available for assignment by this operator. • Select, then click the right arrow to assign an available person. • Select, then click the left arrow to unassign a person. **Note:** Only those with an e-mail address in their Person Record display in the People Assignment list for assignment to an alarm notification. Click **OK** and the selected people names display in the Assigned People windowpane of the Person Selection window.

How to

1. Review *Table 44* and following the guidelines, assign people.
2. Click **Save** before you exit this tab.

Message Format tab

The Message Format tab allows you to format the appearance of the e-mail alarm notification, based on your Windows regional font settings.

Figure 24. Message Format tab

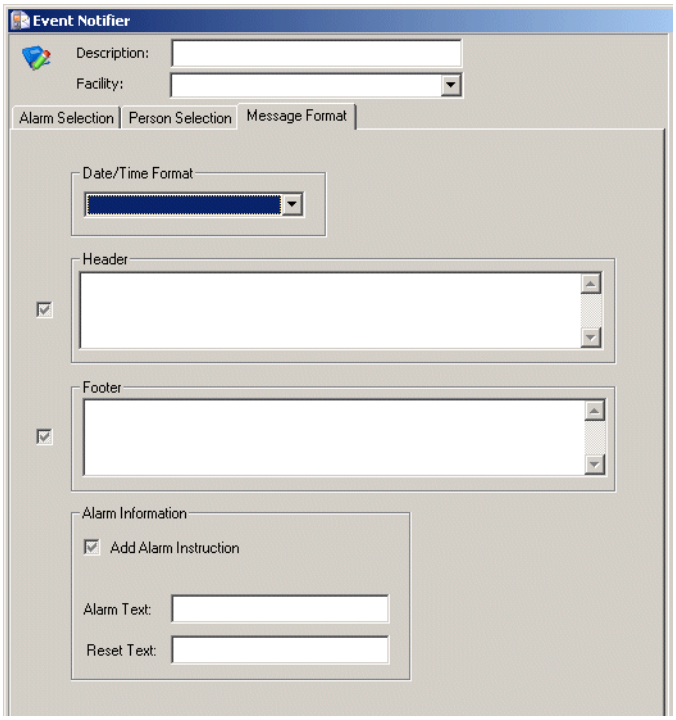


Table 45. Form fields

Element	Description
Date/Time Format	Select a date/time format from the drop-down list.
Header	Select this check box to display a header greeting. In the Header field, enter text up to 256 alphanumeric characters. This could be additional details explaining the alarm condition. • If you do not enter a header greeting, an equivalent white space displays at the beginning of the e-mail notification. • If you do NOT select the check box, any header message you create is NOT included in your e-mail.
Footer	Select this check box to display a footer closing. In the Footer field, enter text up to 256 alphanumeric characters. This space could provide a name and number to contact if the receiver has a question. • If you do not enter a foot or closing, an equivalent white space displays at the end of the e-mail notification. • If you do NOT select the check box, any footer message you create is NOT included in your e-mail.

Table 45. Form fields (continued)

Element	Description
Alarm Information	**Add Alarm Instructions** Select this check box to include the alarm instruction associated with this alarm, in this e-mail notification. • If this check box is not selected, any associated alarm instruction is not included in the message. • If this check box is selected and there are no alarm instructions, no instructions are included in the message. **Alarm/Reset Text** This text is how you want the alarm State to display to the receiver. You can do one of the following: • Accept the default alarm state entry, as displayed in the language of the current operator. • Select and replace the existing text with alarm state text in another language, such as the language of the receiver. You can also add to the text with additional text (no more than 32 alphanumeric characters total) describing the state. **Alarm Text**: Default alarm state text is Alarm, displayed in the language of the current operator. **Reset Text**: Default alarm reset state text is Reset, displayed in the language of the current operator.

How to

1. Review the guidelines in *Table 45* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Example Alarm Information: The information displayed on the e-mail message may look similar to:

`0151-1-01 DI|Alarm|10/16/02 15:20:59`

where:

`0151-1-01 DI` = The controller, module and reader.

`Alarm` = The alarm state.

`10/16/01 15:20:59` = The controller date and time.

Define mode schedules

Use the Mode Schedules form, Schedules group, to define the date and time a mode goes into effect. The purpose of a mode is to allow the controllers to operate differently than predefined for Normal mode (Monday through Sunday, which is the default mode of the FCWnx system). Operating modes are an administrative

decision, as each facility has unique requirements. For each mode, FCWnx controllers manage their devices such as readers and doors in a predefined way.

- Like events, there is no end time associated with a mode. The mode remains active until changed by another mode schedule.
- The Host PC and controllers may be in different modes at the same time.
- Modes are not partitioned by facilities. If you need to use facilities in your system, create a mode schedule for each facility. Use the facility description as a prefix on the Mode Schedule form, in the Description to indicate to which facility this mode applies. For example: **`BocaHQ 8 to 5`** would indicate a facility-specific mode, where BocaHQ refers to a geographic location.

Note: You may have a schedule configured, but never see a schedule change if you do not have the schedule associated with an Alarm Routing and Bumping configuration.

Table 46. Form fields

Element	Description
Description	Enter a meaningful and unique 64-digit or less alphanumeric description.
Facility	A facility option can be designated for your new record from the Facility drop-down list.

Mode Schedule tab

Use this tab to create a mode schedule.

Note: Like events, there is no end time associated with a mode. The mode remains active until changed by another mode schedule.

Figure 25. Mode Schedule tab

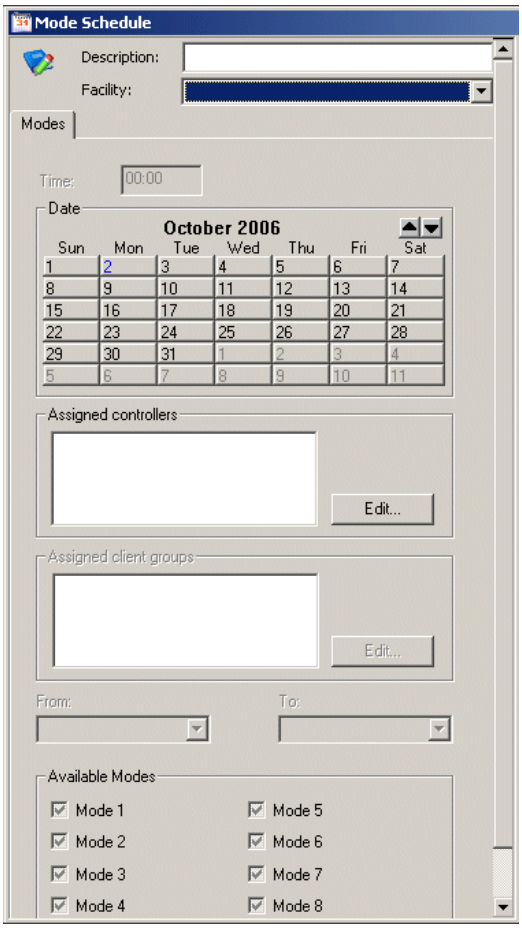


Table 47. Form fields

Element	Description
Time	The time displays in the format 00:00 (hours:minutes). Select and enter text over existing time. Enter AM or PM.
Date	Click the arrows to navigate through the months and years until the appropriate month displays. Click the day on the calendar that this mode begins.
Assigned Controllers	Displays the currently assigned controllers for this mode.

Table 47. Form fields (continued)

Element	Description
Edit	Click to display the Controller Assignment dialog that allows you to add or change the controllers currently assigned. You must select all controllers that this mode change effects. **Controller Assignment dialog** This window displays when you click **Edit**, allowing you to select and assign client group association for this form. Only client groups in the operator's facilities are available for assignment by this operator. Select, and then click the right arrow to assign an available client group. Select, and then click the left arrow to unassign a client group.
The following options are only available for systems with Micro controllers.	
Assigned Client Groups	Click to display the currently assigned client groups for this record.
Edit	Click to display the Client Group Assignment dialog box that allows you to add or change the client group.
From	Select the mode the system must be in for this schedule to occur.
To	Select the mode the system changes to when this schedule occurs. *(This field is not available for system using ACU controllers.)*
The following mode options are available for systems with ACU and Micro controllers.	
Available Modes	A list of available modes displays here: ***Micro Controllers***: Three modes are available and enabled for selection. ***ACU Controllers***: Eight modes are available and enabled for selection.

How to

1. Review the guidelines in *Table 47* and complete this tab.
2. Select the date 03/16/2006 from the calendar Date control.
3. Click **Edit** in the Assigned Controllers group box.
4. Select the controller ACU19588 from the controller list.
5. Enable the checkbox for Mode 7 from the Available Modes group box.
6. Click **Save** before you exit this tab.

Example modes:

Normal: This mode is day-of-the-week dependent and is the default mode for the FCWnx system. The remaining modes are not day-of-the-week dependent. Both schedules and events can be defined in terms of modes. Sunday through Saturday configurations are only in effect in Normal mode. Next, you could define other modes such as:

Mode 1 as Half-Day Holiday

Mode 2 as Full-Day Holiday

Mode 3 might be Return to Normal (since modes do not end, another mode takes the active mode to another mode)

For systems using ACU controllers, these additional Modes display:

Mode 4

Mode 5

Mode 6

Mode 7

Mode 8

Note:

- Mode schedules created on the Mode Schedule form display as schedule options on the Event Schedule form and Time Schedule form.
- You can change the label of your modes on the Preference form, Mode Labels tab. (You must restart the FCWnx program for any changes to the Preference form to take effect.)

What's next?

Proceed to *Devices* on page 83.

Chapter 4 Devices

This chapter provides an overview when defining, configuring, and assigning devices.

In this chapter:

Overview 84
Device configuration 84
Controllers overview 84
Define controllers 86
Controller flash and controller preference configuration 110
Define readers 112
Define digital inputs 133
Define digital outputs 143
Define digital output groups 149
Define instructions 151
Define alarm responses 152
Define alarms 153
Adding sound to an alarm 167
Define alarm groups 167
Define alarm priority 170
Configure alarm routing and bumping 172
API connections 176
Define floors 177
Define elevators 178
What's next? 186

Overview

Before you proceed, make sure that your peripheral system hardware is installed and running. Refer to the installation instructions for your brand of hardware.

Device configuration

The following order is recommended for completion of device configuration:

1. Create controller records. (Additional device records can be configured following the creation of controller records.) Refer to *Controllers overview on page 84*.
2. Configure reader records. Refer to *Define readers on page 112*.
3. Configure digital inputs. Refer to *Define digital inputs on page 133*.
4. Set up alarm instructions. Refer to *Define instructions on page 151*.
5. Configure alarm records. Refer to *Define alarms on page 153*.
6. Configure alarm groups. Refer to *Define alarm groups on page 167*.
7. Configure digital outputs. Refer to *Define digital outputs on page 143*.
8. Configure digital output groups. Refer to *Define instructions on page 151*.
9. Configure elevators. Refer to *Define elevators on page 178*.
10. Configure DVRs. Refer to *Define digital video recorders on page 188*.
11. Configure cameras. Refer to *Define cameras on page 198*.
12. Start controller communications.Refer to *Client monitoring on page 300*.
13. Verify client configurations. Refer to *Identify and configure clients on page 48*.
14. After creating schedules, return to the applicable device records and assign schedules.
15. If your system is using ACU controllers, you must assign devices to an Area. Refer to *Define areas on page 220*.

Note: In case of a default host computer that has failed, devices that have been added to the default host computer during the failover cannot come on line until the default host has recovered and a system recovery notification is received.

Controllers overview

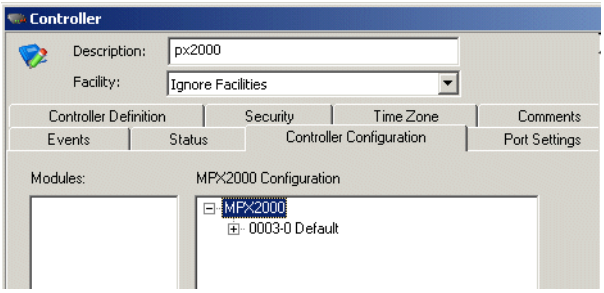
Note: Controller records can be created within FCWnx without having the controllers attached and configured. Additional device records can be configured after creating controller records.

Controllers manage access through the use of devices such as credential readers, alarm points, and output points physically wired to the controller, which is then connected to the host by one of the following methods:

1. Directly
2. Using RS-232 cabling through a modem
3. Through a network

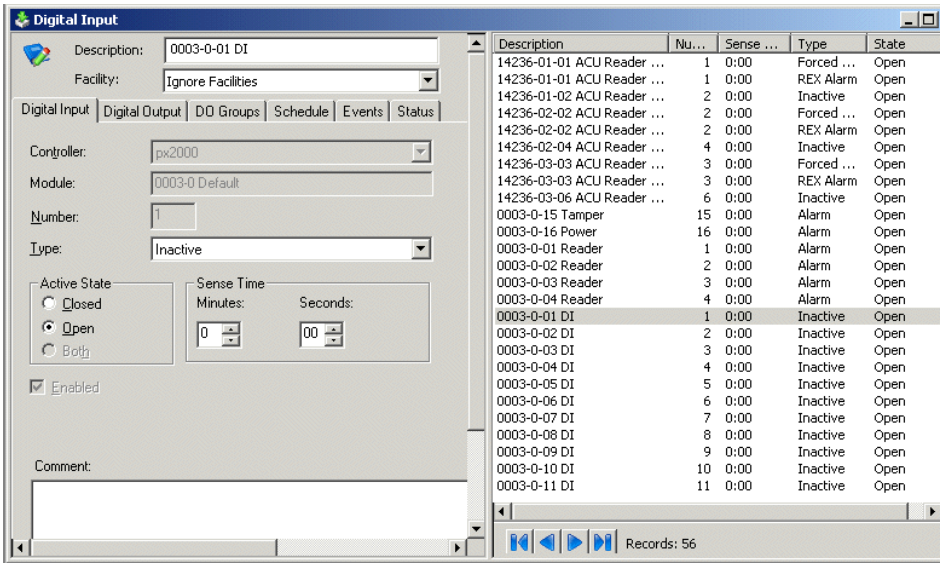
FCWnx provides a controller auto-configuration feature, allowing you to set up the database with the exact module configuration that you selected during the controller configuration process. When you create a controller record, only those records for the associated devices (readers, alarms, alarm groups, and digital outputs) supported by the controller's configuration are created. The auto-configuration feature anticipates your configuration requirements. For example, the MPX2000 is a single-module micro controller. Other modules do not display for selection, as shown in the image below. This module address is 2.

Figure 26. PX2000 configuration



In this example, notice the DI records created automatically when the MPX2000 record was saved.

Figure 27. DI records



Note: The Controller form contains a combination of tabs. The settings selected on the Controller Definition tab determine which tabs display.

Note that any time a credential that is not in a controller is presented to a reader, it is reported as unknown and the host sends the credential to the controller. This happens regardless of the Credential Loading option. The controllers can store only a limited number of credentials. When a previously unknown credential is sent to a controller whose credential capacity is exceeded, the controller randomly chooses a credential to delete to make room for the new credential. The credential is deleted from the controller but not from the FCWnx system.

Define controllers

Use the Controller form, Security Devices group, to configure controllers. Complete the steps in the order presented.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button. If you are using this shortcut menu to get to the Schedules form or Events form, all schedule or event records display.

Table 48. Form fields

Element	Description
Description	The description of the controller should be unique and include where the controller is located and/or how it is used. Example: `1 - Building A2 North Telco Closet` could represent Controller 1 located in Building A2 North in the Telco Closet. This is a required field and accepts 64 characters.
Facility	A facility option can be assigned for your new controller record from the Facility drop-down list. All devices, such as readers, alarms, and DIs added with the controller belong to the same facility as the controller. If you edit the Facility option on an existing controller record, a messages displays, Do other devices change to the same facility as the controller? If you select Yes, all associated devices and alarms change to the newly assigned facility. If you select No, the facility change takes place only on the controller record. The default of Ignore Facilities is assigned if no other selection is made.

Records generation

You can configure your controller record to match the controller's physical module configuration. Only those records that are needed are configured.

Controller record generation

For systems with Micro controllers:

When you select a controller type on the Controller Definition tab of the Controller form, a Power/Comm module is automatically added to the Configuration column on the Controller Configuration tab of the Controller form. As a result, certain additional records are created:

- Alarm Records:
  - Tamper
  - Power
  - Host Comm
  - If this is a network micro, a controller comm encryption alarm is created.
  - 8RP Reminder: The Micro/PX-2000 supports 4 readers.
  - 16DO Reminder: The Micro/PX-2000 supports 8 DO points.
  - 20DI Reminder: The Micro/PX-2000 supports 11 DI points.

Note: Micro/PX-2000 modules shipped after November 1, 2003, support the 11th DI as a low-battery alarm for the controller.

- Digital Input Records:
  - Tamper

    - Power
- Sixteen (16) Alarm Group Records:

As mentioned above, all alarms are automatically assigned to Alarm Group 0. You can change this on the Alarm Group form.

For systems with ACU controllers:

Common alarm records:

- Tamper
- Power
- Low battery
- Host Comm
- Controller COMM encryption

ACURS2 and ACURS4 controllers:

- Reader records
- Alarm records
- Input records
- Output records

ACU2X, ACU2XL/8, and CU2XL16 controllers:

- 12 Aux DI records
- 12 Aux DO records

Note: By default, none of these alarms are monitored. If you want them to display on the Alarm Monitor when the alarm is triggered, you need to go to the Alarm form, Alarm tab and enable Monitor in the Settings section.

In addition, all alarms are automatically assigned to Alarm Group 0. You can change the Alarm Group on the Alarm Group form.

Reader module record generation

The reader modules listed in the Modules column on the Controller Configuration tab depend on the Controller Type you selected on the Controller Definition tab of the Controller form. When you add a reader module, certain records are automatically created:

For systems with Micro controllers:

- Reader records: If adding a 2RP or 2SRP module, two reader records are generated. By default, these readers are active and able to accept credential transactions. Readers marked as Active count against your reader limit.
- Alarm records
    - An alarm record is generated for each reader record. If you selected Supervised when you added the module, an additional alarm record is generated for each reader called Supervised Reader. If you are adding a 2SRP module, you receive an additional alarm record for each reader called Supervised Exit.

    - None of these alarms are monitored. If you want them to display on the Alarm Monitor when the alarm is triggered, you need to go to the Alarm form, Alarm Tab and enable Monitor in the Settings section.
    - In addition, all alarms are automatically assigned to Alarm Group 0. To change this, go to the Alarm Group form.
- Digital input records: A digital input record is generated for each reader record.
- Digital output records: If you added a 2RP or 2SRP module, a digital output record called Aux DO is generated for each reader record. (There are 2 DO relays available on a 2RP module.)

For systems with ACU RRE1/RRE2/RRE4/RREIKE:

- Reader records
- Alarm records
    - None of these alarms are monitored. If you want them to display on the Alarm Monitor when the alarm is triggered, you need to go to the Alarm form, Alarm Tab and enable Monitor in the Settings section.
    - In addition, all alarms are automatically assigned to Alarm Group 0. To change this, go to the Alarm Group form.
- Digital input records
- Digital output records

DI module record creation

For systems with Micro controllers:

When you add a 20 DI module, twenty (20) digital input records are created.

Example: `0001-1-01 DI`

This digital input is on controller 1, module 1, point 1. To change this description, enter text over the existing text and save the record. It is recommended that you keep the **`mmmm-b-pp`** prefix in each digital input displayed to aid in locating the alarm points on the physical hardware. This field accepts a maximum of 64 characters.

Note: **Micro/PX-2000 ONLY**: When you create and save a Micro/PX-2000 record, FCWnx creates and supports 11 DI points; however, the 11th DI is a low-battery alarm from the controller. If power is off and the backup battery is running low, the controller sends an alarm transaction to the Alarm Monitor form. The alarm displays until the battery is reset by recharging or the controller is powered back on.

To configure the 11th DI on an MPX2000 to function as a low-battery alarm:

1. Open the Digital Input form from the Devices menu and click **Search** to display a list of digital inputs.
2. Select the DI labeled **`xxxx-x-11`** where 11 is the 11th DI point of the Micro/PX-2000 controller module.
3. Select **Alarm**, from the drop-down list of available DI types.
4. Click **Save**.
5. Open the Alarm form from the Devices menu and click **Search** to display a list of alarms belonging to the controllers.

6. Select the DI labeled **`xxxx-x-11`** where 11 is the 11th DI point of the Micro/PX-2000 controller module.
7. Extend the Description entry by entering text indicating low battery.

   The entry may look similar to: **`0002-2-11 Low Battery`**
8. On the Alarm tab of the Alarm form, select **Monitor** from the Settings options.
9. Click **Save**.

For systems with ACU controllers:

When RIM modules are added, the following records are created:

- 16 supervised inputs
- 3 unsupervised inputs
- 2 Aux DOs

Example: **`16337-00-00 ACU Reader`**

To change this description, enter text over the existing text and save the record. It is recommended that you keep the number prefix in each digital input displayed to aid in locating the alarm points on the physical hardware. This field accepts a maximum of 64 characters.

DO module record creation

For systems with Micro controllers:

When you add a 16 DO module, sixteen (16) digital output records are created.

Example: **`0001-1-01 DO`**

This digital output is on controller 1, module 1, point 1. To change this description, enter over the existing text and save the record. It is recommended that you keep the number prefix in each digital output description displayed to aid in locating the alarm points on the physical hardware. This field accepts a maximum of 64 characters.

For systems with ACU controllers:

When you add an RRM module, the following records are created:

- 16 digital output
- 2 Aux DI

Example: **`16337-00-0 ACU Reader`**

To change this description, enter over the existing text and save the record. It is recommended that you keep the number prefix in each digital output description displayed to aid in locating the alarm points on the physical hardware. This field accepts a maximum of 64 characters.

Creating direct-connect controller records

1. When you click **Add** to add a controller record, the Controller Definition tab of the Controller form displays default values filled in for Head of line and Credential Loading. Complete the following:
   - Enter the address of the controller.

- Enter the type of controller.
- If this controller is the first controller on a string of controllers, select **Yes** in Head of line. Otherwise, select **No** and select the head of line controller. If this is a downstream controller that you are adding, the controller directly upstream (towards the host) from it needs to be reset in order for it to recognize the controller you are adding.
  Example:
  If your line of controllers looks like this:
  Host - Controller 1 - Controller 2
  And you want to add Controller 3 to the end of the line so that it now looked like this:
  Host - Controller 1 - Controller 2 - Controller 3
  Then you would need to reset Controller 2 in order for Controller 3 to be recognized.
- For connection type, select **Direct**.
- Set Host keep alive time interval.
- Enter the PC name of the host computer or navigate and select.
- Select a method.

2. On the Password tab, if you do not enter passwords, the default passwords (one-1, two-2, three-3, and four-4) are used. If you want to change the passwords, you can do so at any time.
3. On the Time Zone tab, a default time zone is filled in. Verify and adjust time zone settings as necessary.
4. On the Comments tab, enter any special consideration or reminder for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.
5. On the Events tab, you may want to schedule when APB and T&A are reset.
6. Select the Status tab to view information about the controller such as the firmware version. You can request the latest information by clicking **Refresh**.
7. On the Controller Configuration tab, select the modules that are in the controller you are setting up. Click the module you want and drag to the Configuration column.
8. To delete, select a module from the Configuration column, right-click and select Delete.
9. Click **Save**. If there is any required information missing, a window displays, listing those items that are incorrect or missing. Don’t forget to save the record again once you fix those items.
10. When the controller record is created, the records for the associated readers, alarms, alarm groups, digital outputs, and digital output groups are also created with default data based on the modules you added on the Controller Configuration tab.
11. Use the Controller Monitor form to set the controller online.

Creating dial-up controller records

Set up your modem(s) through the Server or client computer’ operating system. Refer to the documentation you received with your modem.

1. Select the Administration group, then select Preference.
2. Select the Communication Settings tab, and enable the modem(s) that are used for controllers. You need to stop the Server computer and then restart it.

3. Once you restart this application and log in, select the Device menu, then Controller.
4. When you click **Add** to add a controller record, on the Controller Definition tab, default values are filled in for the following fields: Head of line and Credential Loading.
   - Enter the address of the controller.
   - Enter the type of controller.
   - If this controller is the first controller on a string of controllers, select Yes under Head of line. Otherwise, select No and select the head of line controller. If this is a downstream controller that you are adding, the controller directly upstream (towards the host) from it need to be reset in order for it to recognize the controller you are adding.
     Example:
     If your line of controllers looks like this:
     Host - Controller 1 - Controller 2
     And you want to add Controller 3 to the end of the line so that it now looked like this:
     Host - Controller 1 - Controller 2 - Controller 3
     Then you would need to reset Controller 2 in order for Controller 3 to be recognized.
   - For Connection type, select Dial-up.
   - Select a Credential Loading method.
5. On the Password tab, if you do not enter passwords, the default passwords (one-1, two-2, three-3, and four-4) are used. If you want to change the passwords, you may do so at any time.
6. On the Time Zone tab, verify and adjust time zone settings as necessary.
7. On the Comments tab, enter any special consideration or reminder for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.
8. On the Events tab, you may want to schedule when APB and T&A are reset and when the host dials the controller. If you select an event for the Dial field (host dials the controller), you must stop and restart the Server before the host recognizes the event settings.
9. Select the Status tab to view information about the controller such as the firmware version. You can request the latest information by clicking Refresh.
10. On the Settings to Reach Host tab:
    - Enter the telephone number(s) that the controller dials to reach the host.
    - Enter the interval at which the controller automatically dials the host.
    - Enter the number of times the controller tries the same number.
    - Enter the number of intervals that the controller waits before trying a telephone number again.
11. On the Settings to Reach Controller tab:
    - Enter the telephone number(s) that the host dials to reach the controller.
    - Enter the interval at which the host automatically dials the controller.
    - Enter the number of times the host tries the same number.
    - Enter the number of intervals that the host waits before trying a telephone number again.
12. On the Controller Configuration tab, select the modules that are in the controller you are setting up. Click the desired module in the Modules and drag to the Configuration column. To delete a module from the Configuration column, select then right-click and select Delete.

13. Click **Save** to save the record. If there is any required information missing, a message displays listing those items that are incorrect or missing. Do not forget to save the record again once you fix those items.
14. When the controller record is created, the records for the associated readers, alarms, alarm groups, digital outputs, and digital output groups are also created with default data based on the modules you added on the Controller Configuration tab.
15. Use the Controller Utilities form to set the controller online.

Controller Definition tab

Configuring your FCWnx system depends on the system that you purchased and licensed. For example, if you purchased a system that includes Micro controllers, you are licensed for Micro controllers and cannot configure ACU controllers.

Note: Configure your system with forethought. You need to designate a physical address for your controller before you create a definition.

This tab contains the basic information on the controller, such as its address and connection type. When configuring a controller, COMPLETE THIS TAB FIRST. Other tabs display, depending on the selections you make on this tab.

Upon creation, the controller is offline. Before the host communicates with the controller, you must change it to online using the Controller Monitor form. You do not see any credential or alarm transactions until this is done.

Figure 28. Controller Definition tab

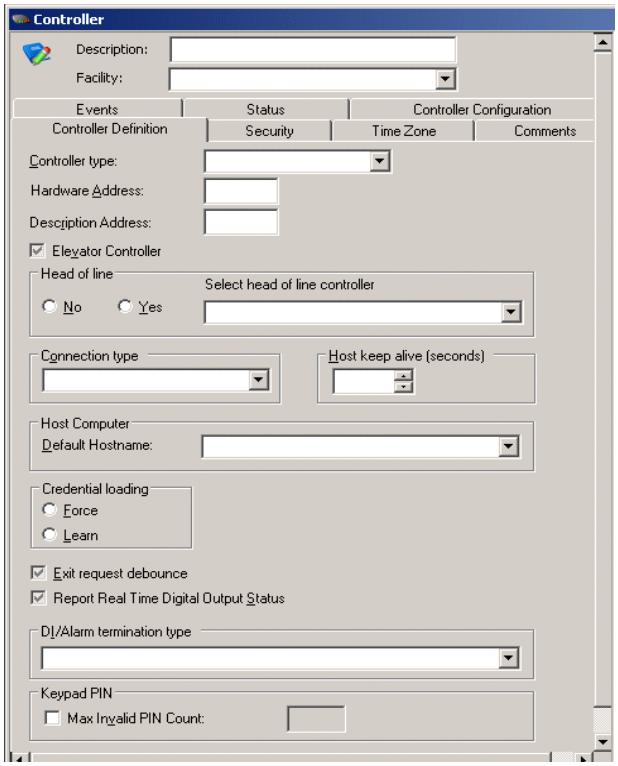


Table 49. Form fields

Element	Description
Controller Type	Select the controller you are configuring from the drop-down list. FCWnx operates with the following controller types: ***Micro Controllers (Micro 5, M2000, and M3000):*** • M5PX (supports 16 readers) for direct serial and remote dial-up modem communications links. • M5PXN (supports 16 readers) for 10/100Mb Ethernet communications links. May also be used for direct serial and remote dialup modem communication links. • M5PXNPlus (supports 16 readers) for 10/100Mb Ethernet communications links. May also be used for direct serial and remote dialup modem communication links. • M2000PX (supports 4 readers) for direct serial and remote dial-up modem communications links. • M2000PXN (supports 4 readers) for 10/100Mb Ethernet communications links. May also be used for direct serial and remote dialup modem communication links. • M2000PXNPlus (supports 4 readers) for 10/100Mb Ethernet communications links. May also be used for direct serial and remote dialup modem communication links. **Note**: If your system is using M3000 controllers, select controller type as M5PXNPlus - see description above ***ACU Controllers:*** **Note:** ACU controllers support multiple combinations of port addresses for readers, inputs, and output modules. Refer to your ACU hardware manual for setting combinations. • ACU2X surface mounted. • ACU2XL/16 built-in LAN connection. • ACU2XL/8 built-in LAN connection. • ACURS2 built-in LAN connection. • ACURS4 built-in LAN connection. • ACUVision built-in LAN connection. When you make a selection, the appropriate fields become available for the selected controller type.
Hardware Address	*Micro Controller*: Enter a number from 1 to 9999 maximum. *ACU Controller*: This number is the five-digit serial number printed on the ACU panel. Enter a number from 1 to 61439 maximum.
Description Address	*The field is available for ACU controllers only.* This field contributes the controller number portion of device descriptions. If you replace a controller board, be sure to enter the new hardware address (serial number) here if you want the hardware address portion of the device description to be accurate in the records of associated devices such as this reader description example: **`12345-1-01 Reader`** This reader is on controller 12345, module 1, reader 1. If the board is changed, **`12345`** is no longer accurate.

Table 49. Form fields (continued)

Element	Description
Elevator Controller	*The field is available for ACU controllers only.* ***ACU controller***: Select this check box if this controller is to be assigned for elevator control. • If the controller is an elevator controller, it can only manage elevators and nothing else. • Elevator records assigned to this Area must be reassigned or deleted.
Head of Line	Once you have connected the first controller to the host, this controller is the Head-of-Line in a string of controllers. • Select **Yes** if you are configuring the first controller connected to the host. • If you select **No**, you must also select a head-of-line controller from the drop-down list. An M5PXNPlus or M2000PXNPlus must be a head-of-line micro to take advantage of the Integrated Configuration Tool for flashing the firmware. If this is a new controller, the network settings are set as the default. Open a browser window such as IE, enter the controller IP address (such as http:\\192.168.6.6) and click **Go**. Firmware download begins. If an M5PXNPlus or M2000PXNPlus is downstream, you have two options: • You can use eFlash to download firmware. • Consider obtaining a network connection and using the Integrated Configuration Tool to individually download firmware.
Connection Type	You must select a controller type before this field becomes available. An error message displays if the selected connection type is not valid with the controller type. Select: • Dial-up if this controller is connected by a modem. • Direct if a cable connects this controller. • Network if this is a network controller connected by a network. • Network + Dial-up if this is a network controller and has a backup dial-up option. When the network connection is not available, the host attempts to reach the controller via a dial-up modem. • Network + Direct if this is a network controller. When the network connection is not available, communication fails over to the secondary direct connection and communication continues. • Network + Network if this is a network controller. When the network connection is not available, communication fails over to a secondary network communication through another IP address, assigned on the Port Settings tab. Using a device that converts IP protocol to serial communication, your network communication is tunneled into packets and transported to your computer as if it were a serial connection. (This product supports the Lantronix USD10/USD100 device.) **Note:** Dial-Up and Network + Dial-Up Controllers: If the host computer of this controller is licensed for Client Redundancy and has assigned a backup client, a dialog box displays, reminding you to complete the Client form by configuring telephone numbers for backup clients to reach this controller.
Host Keep Alive	Enter (or use the up and down arrows) the number of seconds that the host waits before sending the next message to a controller. Enter a number between 10 and 3600. In general, you want a large number when you have many controllers on the same line or have a slow baud rate. The default is 30 seconds and in most cases, it does not need to be changed.

Table 49. Form fields (continued)

Element	Description
Host Computer	Select the PC Name from the drop-down list. This is the host machine that communicates with the newly defined controller in the future and acts as the controller communication server. If the Default Hostname computer is in a failover condition, you cannot re-assign this controller to any other Host computer except the Active Client that is presently hosting this device.
Credential Loading	Note that any time a credential that is not in a controller is presented to a reader, it is reported as unknown and the host sends the credential to the controller. This happens regardless of the Credential Loading option. The controllers can store only a limited number of credentials. Refer to the licensing chapter of the FCWnx Installation Guide for capacities. When a previously unknown credential is sent to a controller whose credential capacity is exceeded, the controller randomly chooses a credential to delete to make room for the new credential. The credential is deleted from the controller but not from the FCWnx system. Select **Force** to force a download of all credentials that can possibly gain access to a reader on the controller. Select **Learn** to allow the controller to "learn" the credentials as they are presented. For example, when a credential is presented to a reader and the controller does not recognize the credential as valid, the controller communicates with the host to confirm credential validity. If the credential is valid, the information for that credential is downloaded to the controller; therefore, the controller acknowledges this credential as valid the next time the credential is presented to the reader.
Send Real Time Digital Output Status	When this check box is selected, any digital output change-of-state is reflected on the alarm Graphics Console, in real-time status. **Note:** Every transaction that changes the state of a digital output on this controller is now written to history. • If you intend to place digital output symbols on your graphics maps that indicate the state of a digital output, this option must be selected for this controller. Refer to your *Graphics Console User Manual*, Graphics Symbol Editor: Properties and Conditions for information about setting controls and assigning properties for your graphics monitoring. • If this option is not selected, you can not see digital output status for this controller on your graphics maps, and digital output transactions are not written to digital output history.
Micro Controllers Only	
Exit Request Debounce	Enable this field to increase the sense time on all the Exit DIs (exit requests). This field is useful if using noisy or chattering contact interference in which you receive false exit requests.
ACU Controllers Only	
DI/Alarm Termination Type	Select the Termination Type from the drop-down list. This wiring termination describes the type of end-of-line resistor used on this ACU controller hardware. The default selection is 'Dipswitch.' For additional information, refer to the ***ACU Networked Intelligent Controllers User Guide.***

Table 49. Form fields (continued)

Element	Description
Keypad PIN	Max Invalid PIN Count (for systems using ACU controllers): 1) Select this check box if you want your FCWnx system to suspend credentials after an invalid PIN is entered and a credential is presented at a reader a configured number of times. 2) Then, enter a number between 1 and 6 as the number of times an invalid PIN code is entered at a system reader before the credential is suspended. The default of this field is '3.' 3) If suspended, the credential must be changed to active by a system administrator.

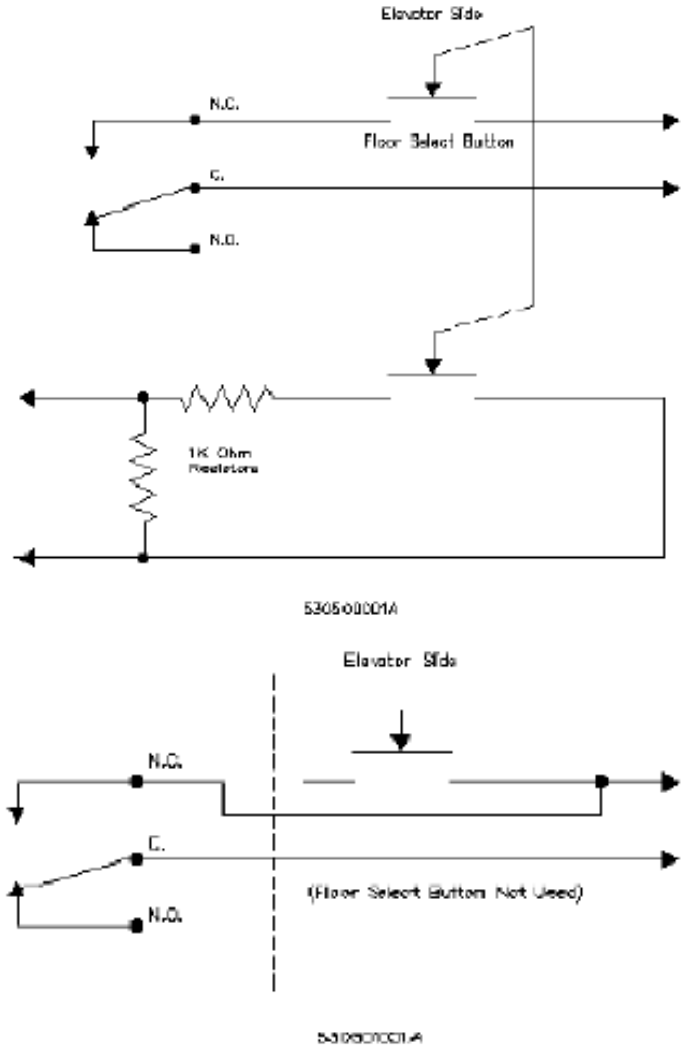
How to

1. Review the guidelines in *Table 49* and complete the fields on this tab according to the controller type that you are configuring.
2. Click **Save** before you exit this tab.

Elevator digital output interface

Elevator companies may choose not to allow installers to handle the elevator wiring directly. They may provide contacts from the elevator circuit that can be used to interface between FCWnx and the elevator control. Sample wiring scenarios display below:

Figure 29. Sample elevator digital output wiring



Software Side:
Digital Output Wiring for either Stand Mode or Floor Tracking Modes.

Software DO:
Optional Selected Floor feedback input wiring used with Floor Tracking Mode Only.

Software Side:
Wiring for Keypad Floor Mode, where the floor is selected by the keypad in the reader.

When an ACU controller is used for elevator control, all DOs are in active/set state when not selected. If the ACU fails, all floors are enabled.

Security tab

Note: This feature is disabled and not supported for ACU controllers.

Figure 30. Security tab

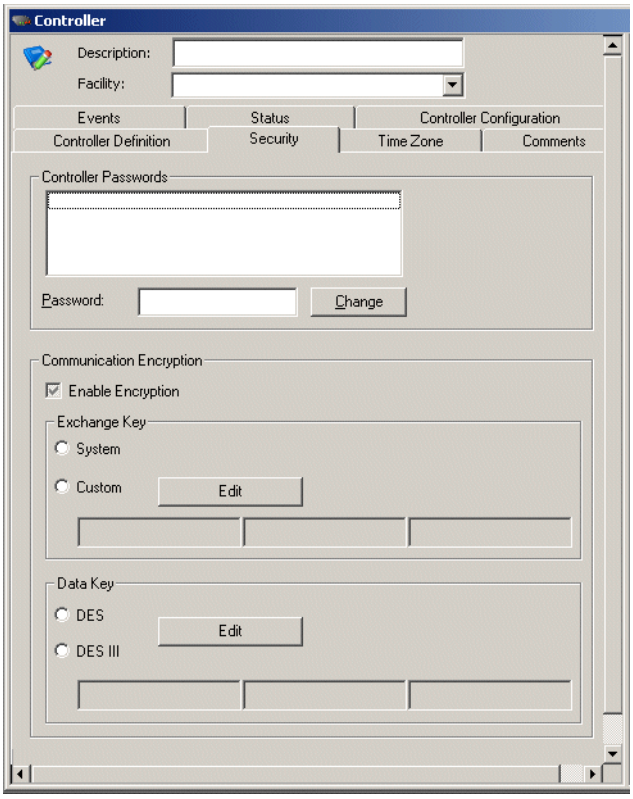


Table 50. Form fields

Element	Description
Controller password	The Controller Passwords list box has the following default password entries, enabling four possible levels of security. Select a password; it now displays in the Password dialog box: Select: **one-1** to re-assign a password by typing over the default displayed in the dialog box. **two-1** to re-assign a password by typing over the default displayed in the dialog box. **three-1** to re-assign a password by typing over the default displayed in the dialog box. **four-1** to re-assign a password by typing over the default displayed in the dialog box. Click **Change** to save and re-assign the new password. **Note:** If you change your controller passwords, you must enter the changed passwords in FlashTool by typing over the existing entries. As you enter the password in FlashTool, the characters are replaced by asterisks (*) to ensure the security of the host access system.

Table 50. Form fields (continued)

Element	Description
Communication Encryption	This feature allows you to configure additional security encryption that scrambles data into an unbreakable code for public transmission. Encryption protects the Host-to-controller exchange of information. The Host uses the Exchange Key to send the Data Key to the controller. Once the Data Key is received, the Host-to-controller communication is encrypted using that key. **Enable Encryption**: This check box is available only for head-of-line network, network + dialup, network + direct, and network + network controllers. **Note:** This check box, and all selections in the Communication Encryption grouping, are not available on downstream controllers. Weak encryption implies that the key could be unscrambled with a realistic amount of processing capacity and within a reasonable amount of time. In FCWnx, a message displays informing you that an assigned key is too weak and therefore, invalid. Corrections must be made before the record can be saved. We recommend entering 48 unique hex characters, in three 16-character strings. Do not repeat any character. Do not create a pattern.
Exchange Key	There are two options for encrypting an Exchange Key. Exchange encryption protects the Host-to-controller exchange of information. Assigning an exchange key grants you a privilege of accessing the next level of encryption, the Data Encryption. You have two options: • **System**: When you choose this selection, no additional selections are available or required. This key is set at the factory. This method of encryption is more convenient but more vulnerable. The key is set at the factory, system-generated, and exists in the Host software. • **Custom**: When you select this option, the three dialog boxes become available. At the controller, enter the 48-character exchange key using FlashTool. This exchange key must be identical to the key that was entered into the controller preference block at the controller. Setting up a Custom exchange key is the most secure method of encryption. The Custom key is user-supplied. The installer can go to each controller and assign the exchange key. When assigning a Custom exchange key, you must assign a total of 48 unique hex characters, in three 16-character strings. Do not repeat any characters. This method of encryption uses a three-pass authentication process. Starting at the left, the first pass authenticates 16 hex characters. The second pass authenticates 16 hex characters. The third pass authenticates all 48 hex characters. **Note:** If the Custom exchange key entries do not match, an alarm condition indication displays in the Reference column of the Alarm Monitor form. **Edit**: Click to re-assign or revise an existing encrypted Custom exchange key for a selected controller. It is possible to assign a duplicate exchange key on separate controllers in your FCWnx system. When you click this button one time, this button label changes to Auto Generate. **Auto Generate**: Click this button to system-generate a Custom exchange key. We recommend that you record this number. You can now enter this key into the controller preference block at the controller.

Table 50. Form fields (continued)

Element	Description
Data Key	Data Encryption is additional security assigned to protect the Host-to-controller exchange of information. The data messages are encrypted. FCWnx supports two methods of data encryption standards: DES and DESIII. • **DES**: This option uses a single pass of authentication and 16 unique hex characters are required. When you select this method, only one dialog box is available for input. Enter 16 unique hex characters in this binary field. We recommend that you do not repeat any character. The additional two dialog boxes are unavailable for entry. • **DES III**: This method of encryption uses a three-pass authentication process. Starting at the left, the first pass authenticates 16 hex characters. The second pass authenticates 16 hex characters. The third pass authenticates all 48 hex characters. Enter 48 unique hex characters in the binary dialog boxes, in three 16-character strings. **Hex characters**: Valid and allowable hex characters include the base 16 numbering system (0 through 9 and A through F). **Note:** If you do not enter unique hex characters, this controller record is not saved. An invalid field message displays, informing you that the keys that were chosen are too weak. **Edit**: Click to re-assign or revise an existing encrypted data key for a selected controller. When you click this button one time, this button label changes to Auto Generate. **Auto Generate**: Click this button to system-generate a data key. We recommend that you record this number.

How to

1. Review the guidelines in *Table 50* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Time Zone tab

Use this tab to select the time zone of this controller.

Figure 31. Time Zone tab

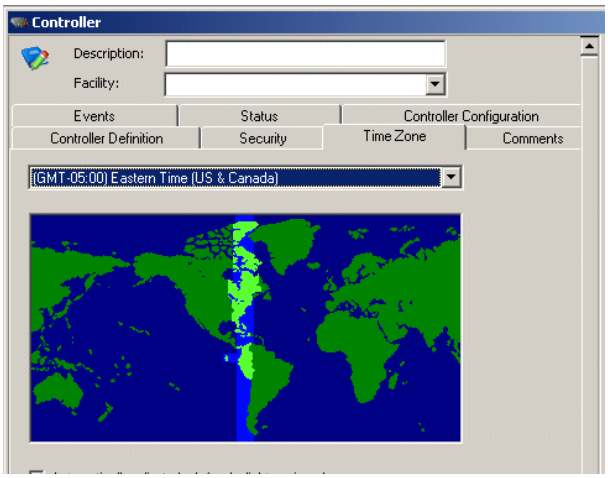


Table 51. Form fields

Element	Description
Zone Drop-down List	Select the time zone of this controller from the drop-down list of available time zones. (You can also use your mouse click-and-drag feature to select and edit the time zone.)
Global Graphic	Use your mouse click-and-drag feature to select and edit the time zone.
Automatically adjust clock for daylight saving changes	The host and controller can operate independently, in different time zones. If you want the controller to recognize and implement daylight savings time, select this check box. • The default of this check box is checked, and the controller recognizes daylight savings time changes. • If the checkbox is not checked, the controller does not adjust for daylight savings time change.

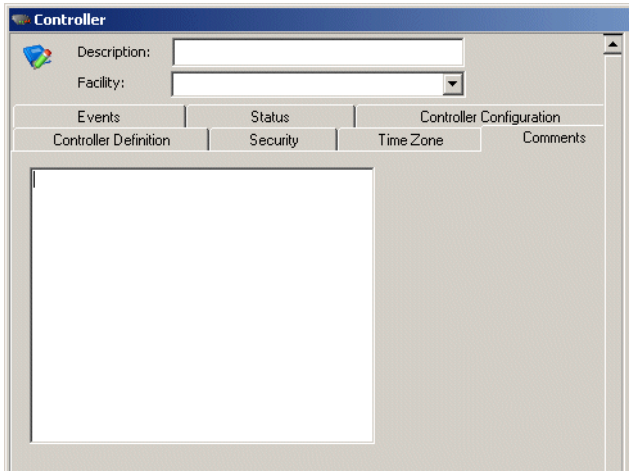
How to

1. Review the guidelines in *Table 51* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Comments tab

This tab and windowpane are provided to enter a location description, reason for creating this group, or special considerations for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

Figure 32. Comments tab



How to

1. Complete the comments field on this tab by placing your mouse cursor in the window and entering text from your keyboard.
2. Click **Save** before you exit this tab.

Events tab

Use this tab to assign events to this controller.

Figure 33. Events tab

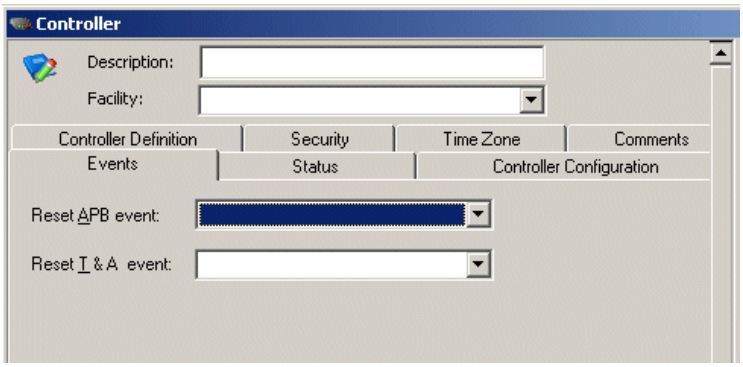


Table 52. Form fields

Element	Description
Reset APB Event	Select an event from the drop-down list of available event records that resets the anti-passback status for all credentials in the controller.
Reset T & A Event	Select an event from the drop-down list of available event records that resets the T&A status for all credentials in the controller.

How to

1. Review the guidelines in *Table 52* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Status tab

Select this tab to view information about an individual controller as currently stored in the controller's database. The columns of the Controller Monitor form also reflect the status of the selected controller and explain what is happening between the host and the controller. This is a read-only windowpane, in two-column format, as follows:

Figure 34. Status tab

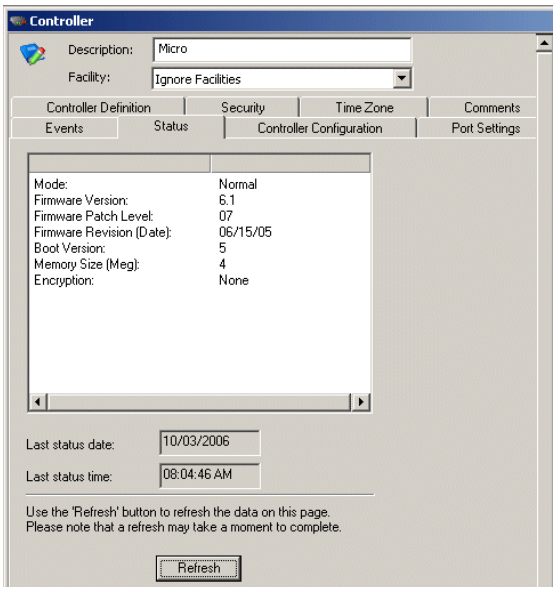


Table 53. Form fields

Element	Description
Mode	Displays the mode of the controller
Firmware Version	Displays the version number.
Firmware Patch Level	Displays the patch level number.
Firmware Revision (Date)	Displays the date of the last firmware revision.
Boot Version	Displays the number of the boot version.
Memory Size (meg)	Displays the amount of memory in megabytes.
Encryption	Indicates if encryption is in use on this controller. **Note:** Encryption status for a head-of-line network + direct controller: If the controller loses network connection and fails over to a direct connect, a configured Encryption status changes to None, since Encryption is available for network controllers only.
These items apply to ACU controllers ONLY:	• **Supports 16 Readers**: Indicates Yes or No, whether this controller supports 16 readers. • **Number of Cards in Database**: Displays the number of credentials in the controller database. • **Supports 8K Areas**: Indicates Yes or No, whether this controller supports 8K Areas. • **Device Type**: Displays the device type. • **Preference Updates Allowable**: Indicates Yes or No, whether this controller allows preference updates. • **Battery Backup Memory**: Indicates Yes or No, whether this controller has backup memory.

Table 53. Form fields

Element	Description
Last status date	Displays the date when the status was last requested.
Last status time	Displays the time when the status was last requested.
Refresh	Click to receive the current status information from the controller. It may take a moment to complete the refresh of the data. A refresh for a dial-up controller causes the host to dial the controller unless they are already connected. The refresh process may take a few minutes. **Note:** A status refresh requested for a controller that is offline or in error is never returned.

How to

1. Review the fields on this tab.This is a read-only windowpane, in two-column format.
2. Request the latest information by clicking **Refresh**. It may take a moment to process refreshing the data.

Controller configuration tab

Use this tab to assign the appropriate modules to this controller.

Note: Before continuing, verify that the controller type is correct. The modules that display in the Modules column depend on the type of controller you have selected.

Figure 35. Controller Configuration tab

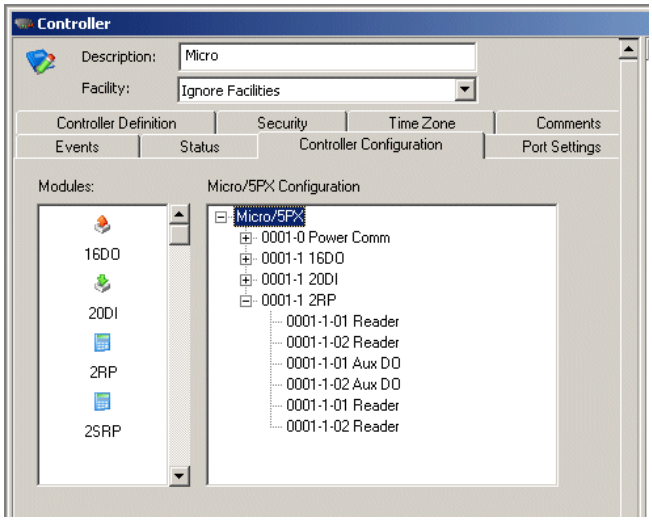


Table 54. Form fields

Element	Description
Modules	Lists all modules supported by this application and the controller type you have selected. • To add a module to the current controller record, click and drag to the Configuration column. • If the addition of the module violates a controller configuration rule, you get an error and the module is not added.
Configuration	Lists the current configuration of the controller. ***For systems with Micro controllers:*** • A Power/Comm module is automatically added when you create the controller record. • The reader, digital input, and digital output modules need to be added to match the physical setup of the controller. **Note:** Following the addition or deletion of a module, you MUST click **Save** for the appropriate records to be generated or deleted. Once you add a module, you can mix and match with other types of modules. For example, if you add one 2RP module, additional modules can be 2RP or 2SRP. For the M5PX, you can add up to four 2RP modules, four 2SRP modules, two 4CRP modules, two 8RP modules, or two CK8RP modules. DI and DO modules can be added with all of the above. ***For systems with ACU controllers:*** • ACU modules • The reader (RRE1, RRE2, RRE4, RREIKE), digital input (RIM), and digital output (RRM) modules need to be added to match the physical setup of the controller. **Note:** Following the addition or deletion of a module, you MUST click **Save** for the appropriate records to be generated or deleted. Once you add a module, you can mix and match with other types of modules. For example, if you add an RRE1 module, additional modules can be RRE1, RRE2, RRE4, and RREIKE.
Note: Following the addition or deletion of a module, you MUST click **Save** for the appropriate records to be generated or deleted.	
Once you add a module, you can mix and match with other types of modules. For example, if you add one 2RP module, additional modules can be 2RP or 2SRP. For the M5PX, you can add up to four 2RP modules, four 2SRP modules, two 4CRP modules, two 8RP modules, or two CK8RP modules. DI and DO modules can be added with all of the above.	

How to

1. Review the guidelines in *Table 54* and complete the fields on this tab.
2. Select, then drag the Modules to the Configuration window.
3. If you receive an error message for a violation, evaluate your selections and add the appropriate modules for your configuration.
4. Click **Save** before you exit this tab.

Port Settings tab

This tab displays only when you are configuring a controller type as direct-connect, network, network + direct, or network + network controller type. Refer to the sample Connection type figure displayed below:

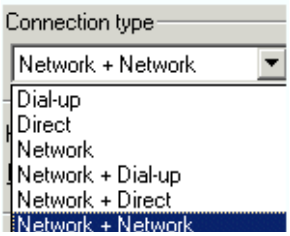


Figure 36. Port Settings tab

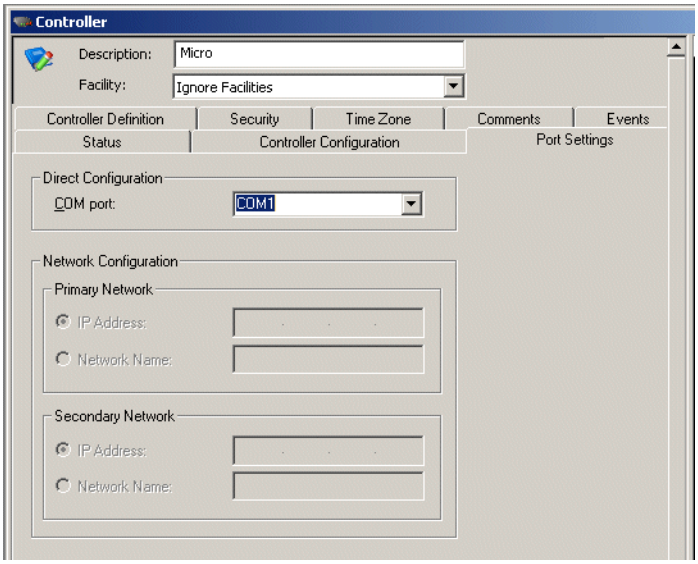


Table 55. Form fields

Element	Description
Direct Configuration	COM port: You are able to change this setting ONLY if the controller connection type is direct-connect or network + direct. Otherwise, this field is unavailable. From the drop-down list, select the COM port to which this controller is connected. The system operates with the default setting of None if no port is designated.
Network Configuration	**Primary Network** **Note:** You must complete ONE of the following two selections. These fields are available ONLY if the controller is other than a direct-connect or dial-up controller. **IP Address**: Select this option and then enter the IP address for network configuration. **Network Name**: Select this option and then enter the network name for the controller that hosts this controller.

Table 55. Form fields (continued)

Element	Description
	Secondary Network **Note:** You must complete ONE of the following two selections. **IP Address**: Select this option and then enter the secondary IP address assigned for network + network communications. **Network Name**: Select this option and then enter the secondary network name for the controller that hosts this controller.

How to

1. Review the guidelines in *Table 55* and complete the fields on this tab.
   - If this is a direct-connect controller, select the COM port from the drop-down list. The Network Configuration section is not available.
   - If this controller is other than a direct-connect, the Network Configuration sections are available for completion.
2. Click **Save** before you exit this tab.

Settings to Reach Host tab

Note: This tab displays ONLY when you are setting up a dial-up, head-of-line controller. Use this tab to configure how the controller dials the host.

Figure 37. Settings to Reach Host tab

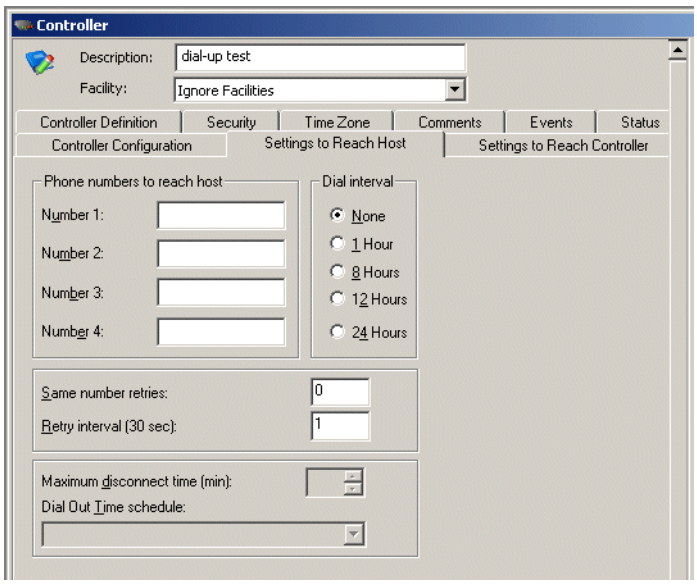


Table 56. Form fields

Element	Description
Phone numbers to reach host	Enter telephone numbers of up to 20 digits, that the controller dials to reach the host. If an outside line must be accessed in order to dial out, enter a comma after the number that accesses the outside line, (typically 9). In this situation, if the telephone number to be dialed is 1-555-666-7777, you would enter the number in this field as follows: 9,15556667777 The controller dials the number in Number 1: and then tries the others in numerical order until connection it made. **Note:** All Number fields must contain a telephone number of up to 20 digits. If there is only one telephone number for this controller to reach the host, repeat this number in all fields. (If you click Save after completing the first Number field, the system automatically completes all Number fields with a duplicate number.)
Same number retries	***This is available for Micro controllers only.*** Enter the number of times (from 0 to 9) the controller should redial the same telephone number before moving on to the next available telephone number.
Retry interval	***(for systems using ACU controllers)*** Enter the number (from 1 to 9) of minute intervals that the controller waits in between each dial to the host. For example, if you specify 2, then the controller waits: 2 x 1 = 2 minutes between each dial to the host. **Maximum disconnect time (min)**: Select a range from 1 to 180 minutes as the maximum number of minutes that the host is allowed to be disconnected from the controller before dialing in again. The default number of minutes is 180. **Dial Out Time Schedule**: Select a time schedule from the drop-down list during which the controller automatically dials the host to upload transactions. When Maximum disconnect time expires, the controller dials the host only if this time schedule is active. **Note:** This setting operates independently from alarm reporting and dialing the host, if selected on the Alarm form. ***(for systems using Micro controllers)*** Enter the number (from 1 to 9) of 30-second intervals that the controller waits in between each dial to the host. For example, if you specify 2, then the controller waits: 2 x 30 = 60 seconds between each dial to the host. **Dial Interval**: Select the interval (none, 1 hour, 8 hours, 12 hours and 24 hours) at which the controller automatically dials the host. The controller dials at the bottom of the hour. For example, if you select the 1-hour interval, the controller would dial at 4:30, 5:30 and continue every hour after.

How to

1. Review the guidelines in *Table 56* and complete the fields on this tab according to the controller type that you are configuring.
2. Click **Save** before you exit this tab.

Settings to reach controller tab

Note: This tab displays ONLY when you are configuring a dial-up, head-of-line controller. Use this tab to configure how the host dials the controller.

Figure 38. Settings to Reach Controller tab

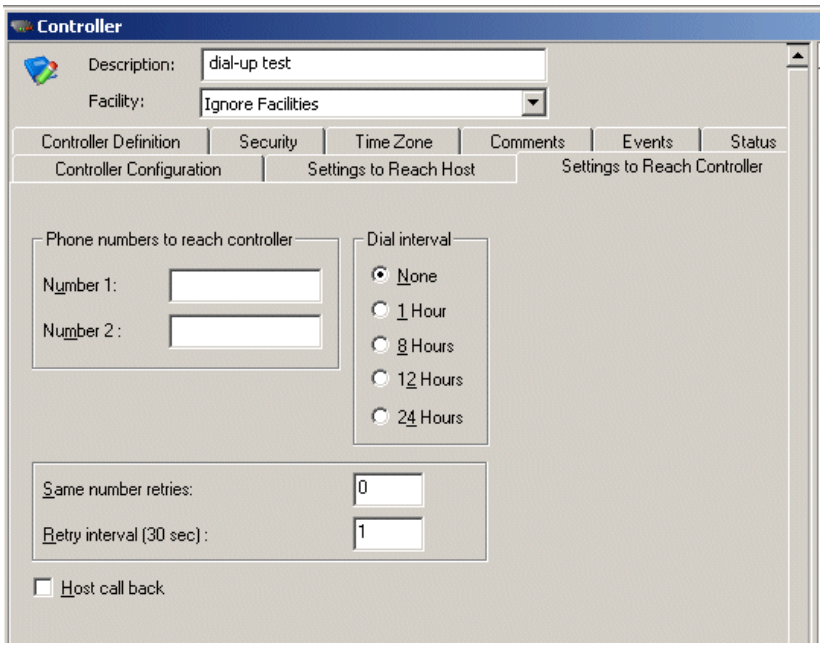


Table 57. Form fields

Element	Description
Phone Numbers to Reach Controller	Enter the telephone number of up to 20 digits, that the host dials to call the controller. If an outside line must be accessed in order to dial out, enter a comma after the number that accesses the outside line, (typically 9). In this situation, if the telephone number to be dialed is 1-555-666-7777, enter the number in this field as follows: 9,15556667777 The controller first dials the number in Number 1: and then tries the number in Number 2:. **Note:** All telephone number fields must contain a telephone number. If there is only one telephone number for the controller, enter this number in all fields.
Dial Interval	Select the interval (None, 1 hour, 8 hours, 12 hours, 24 hours) at which the host automatically dials the controller. The host dials one hour from the time the controller went into an idle (no activity) state. If this is a new record, the count begins once the record is saved. If this application is shut down, the count begins once this application is started.
Same Number Retries	Enter the number of times (from 0 to 9) the host should redial the same telephone number before moving on to the next available telephone number.
Retry Interval (30 sec)	Enter the number (from 1 to 9) of 30-second intervals that the host waits in between each dial to the controller. For example, if you specify 2, then the host waits: 2 x 30 = 60 seconds between each dial to the host.

Table 57. Form fields (continued)

Element	Description
Host Call Back	Select this check box if you want the host computer to return a call back to the controller, providing additional validation that the correct host-to-controller communication has taken place.

How to

1. Review the guidelines in *Table 57* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Controller flash and controller preference configuration

The Flash Controller option is available as an icon on the Controller Monitor form toolbar and shortcut menu. This dialog box displays only if the controller is online. There are three options:

1. View/edit preference info

Controller Preference - Direct/Dialup: This option is available for selection of a single controller. When selected, the Controller Preference Configuration screen displays and the configuration for the controller is retrieved, allowing you to edit or change an existing setup such as controller address, IP address change, or phone number changes. Once saved, the controller resets and the new changes take effect.

Note: If you change preference block data through this application, any Universal Credential Format (UBF) data is erased.

Example: If an M/5-PXN was originally configured as a direct serial controller during installation but is now a network controller, select the updated controller type and complete the network information. Click **OK**. The controller accepts the changes, resets, then changes the host information for this controller.

The Controller Preference - Direct/Dialup tab allows you to change the connection type of the controller and its Address, Idle Time, and DI res tolerance.

The Controller Preference - Networking tab displays only if the system identified your controller as a network controller and allows you to change the network preferences for the controller.

Controller Preference - Credential Format: This tab opens to display the custom credential formats that are currently in the controller. If there are no custom formats, the fields are empty. If a format in the database does not match what is available in the controller, the window list displays a message ‘Unrecognized Format.’ To change the credential format:

- **Magnetic stripe**: Select the type of magnetic stripe format from the drop-down list.
- **Wiegand**: Click **Assign formats** to display a list of available Wiegand credential formats from which to choose and assign to this controller.
- **Clear formats in controller**: Click to clear all custom credential formats from the controller. Credentials associated with those formats no longer work.

If you change the credential format, any format that existed in the controller previously is replaced.

2. Start flashing controller(s)

This option starts flashing the selected controller(s) with the latest firmware. A dialog box displays, asking you to verify your request. The flashing process takes approximately two to three minutes; it varies with amount of data that needs to be transmitted to the controller.

3. View/edit flash files

Use this option ONLY when it is necessary to selectively flash an older version of firmware on a controller. This application automatically selects the latest version by default. The flashing process takes approximately two to three minutes; it varies with amount of data that needs to be transmitted to the controller. Click **OK** to begin the flash. When flashing is complete, the controller resets and requests a database.

- **Micro/5 - PX and Micro/PX - 2000**: The form opens with the latest `.efl` firmware file displayed. Click the drop-down list to display and select an older firmware file.
- **Micro/5 - PXN and Micro/PXN - 2000**: The form opens with the latest `.efl` network firmware file displayed. Click the drop-down list to display and select an older network firmware file.
- **MicroPXNPlus and MicroPXNPlus2000**: The form opens with the latest `.efl` network firmware file displayed. Click the drop-down list to display and select an older network firmware file.
- **Browse**: Click to navigate to another media source or directory where firmware files reside.
- **Override Block Checking**: Ignore this check box. This selection is for Customer Support use only.

Note: Secure Perfect Version 4.XX and later micro firmware is able to communicate with this application host and continue to send alarm and credential transactions. Upgrading your system can be a seamless operation without loss of data, time constraints during the controller migration process, or lockdowns during the database upgrade process. However, in order to take advantage of the new features that are dependant on the firmware, the ultimate goal is to bring all controllers to current level as soon as possible following the database upgrade.

Define readers

Use this form, Security Devices group, to define readers. Readers are the devices that interpret the encoded numbers on credentials. Readers are usually located near doors or gates that the system controls. Credentials are presented to the readers in order to gain access through a door.

- When a controller record is created, reader records are also created. The number of records depends on the controller that you configure and the reader modules that the controller contains.
- The reader is automatically enabled as **Online** and **Active**, and configured to accept credential transactions when a reader record is created.
- The number of active readers counts against your reader limit. For example, if your license key allows the use of 128 readers, you may have only 128 readers marked as active.

  Note: When the total of all reader records equals the maximum number of active readers allowed by your license, you receive a warning message.

- The reader record controls both the physical reader and how the door locks and unlocks. See your controller and reader installation manual for information on how to connect readers to a controller. Use the Reader form to modify the reader configuration.
- If this reader is associated with *SCIF*, you cannot configure, monitor, or control this reader record unless you are at the SCIF workstation that is hosting this reader.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button. If you are using this shortcut menu to get to the Schedules form or Events form, all schedule or event records display.

Element	Description
Description	When reader records are created, the default description is in the format: ***Micro controller***: **`mmmm-b-pp`** ***ACU controller***: **`mmmmm-na-pp`** where **`mmmm`** or **`mmmmm`** represents the controller number to which this reader is associated, **`b`** represents the module number (`n` represents the port number and `a` represents port address), and **`pp`** represents the reader number. **Example** **`Micro record: 0001-1-01 Reader`** This reader is on controller 1, module 1, reader 1. To change or add to this description, select and enter text over the existing text and save the record. It is recommended that you keep the **`mmmm-b-pp`** prefix in each reader displayed to aid in locating the reader points on the physical hardware. This field accepts a maximum of 64 characters.
Facility	A facility option can be assigned for the Area from the drop-down list of available facilities for assignment by this operator. The default of Ignore Facilities is assigned if no other selection is made.

Reader tab

This tab contains the basic information about the reader.

Figure 39. Reader tab

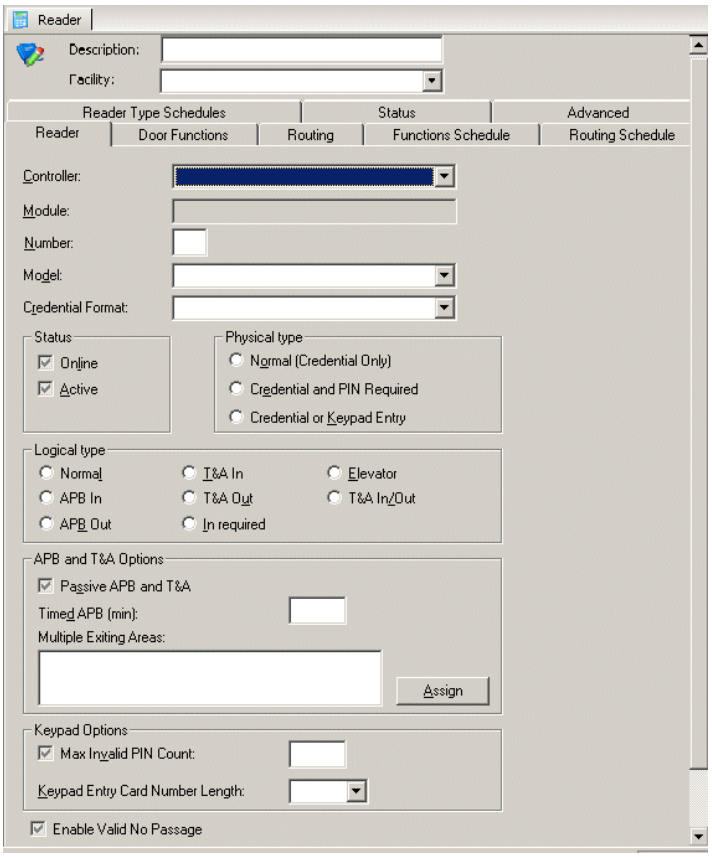


Table 58. Form fields

Element	Description
Controller	This is a read-only field. The description of the controller that manages this reader.
Module	This is a read-only field. The default description is in the format: **`mmmm-b Module Type`** where **`mmmm`** represents the controller number to which this reader is associated, **`b`** represents the module number, and **`Module Type`** represents the reader module. For example, **`0001-1 8RP`** would be the reader on controller one, 8RP module one.
Number	This is a read-only field. The number of the reader. (**Example**: For a Micro/5-PX: 1 to 16; for a Micro/PX-2000: 1 to 4.) The number corresponds to where the reader is connected on the controller. See the ***Micro/5 Installation Guide***, ***Micro/PX-2000 and Micro/PXN-2000 Installation Guide***, or ***ACU Networked Intelligent Controllers User Guide*** for more information.

Table 58. Form fields (continued)

Element	Description
Model	Select from the drop-down list of card data formats. The list of formats that display is associated with the type of controllers used in your system. ***For Micro controllers:*** • CASI-RUSCO Supervised if using a CASI-RUSCO supervised reader such as the 94x or 97x series proximity readers set for supervised F/2F. • CASI-RUSCO 440/445 if using a CASI-RUSCO Model 440, Model 445, or Model 910. • Other if using a reader that does not fit into the above categories. ***For ACU controllers:***· • Magstripe if using magnetic stripe card readers. • Wiegand if using Wiegand card readers. • Custom enables a field for selection of a Credential Format.
Credential Format	• This field is available when magstripe, Wiegand, or custom has been selected as the Model type. Select from a drop-down list of available credential formats in the database. • ACU controller reader models are custom only. After selecting the Model as Custom, then select a Credential Format.· • The maximum number of Wiegand formats from which to select and assign is 15. • The maximum number of Magstripe formats from which to select and assign is 15.
Status	**Online**: This field is automatically enabled when this reader record is created. An online reader accepts a valid credential read and unlocks a door, provided it is one of the licensed active readers. You also have the option to schedule a reader offline. When the reader is offline, the reader does not accept valid credential reads, does not unlock a door, and transactions display on the Activity Monitor as Invalid. **Active**: This field is automatically selected and allows the accepting of credential transactions when this reader record is created. The number of active readers counts against your reader limit, as defined by your software license. For example, if your license key allows the use of 64 readers, you may have only 64 readers marked as Active. **Note:** If this reader is associated with *SCIF*, you cannot control this reader status unless you are at the SCIF workstation that is hosting this reader.
Physical Type	**Normal (Credential Only)**: This reader requires only a valid credential to gain access. **Credential and PIN Required:** This reader requires a valid credential and a valid number (PIN) entered on the keypad to gain access. **Credential or Keypad Entry:** This reader requires you to enter either a valid credential number on the keypad or a valid credential to gain access.

Table 58. Form fields (continued)

Element	Description
Logical Type	**Normal**: Allows as many successive accesses as needed, as long as the credential is valid. **APB**: Anti-passback in. This type of reader (which gives an IN status) is used to enter an area. This reader does not release a door a second time until that credential is presented to an APB out reader connected to the same controller or, if you selected Enable global APB on the Settings Tab of the Preference form, a different controller. All controllers are updated. **The following options are available for selection if this reader is associated with a Micro controller:** **APB out**: Anti-passback out. This type of reader (which gives an OUT status) is used to leave an area. This reader does not release a door a second time until that credential is presented to an APB in reader connected to the same controller or, if you selected Enable global APB on the Settings Tab of the Preference form, a different controller. All controllers are updated. **Note:** **Global configuration**: You must configure this reader as APB if you plan to include this reader in a Region APB configuration. Only designated APB reader types display for selection on the Region form. **T&A in**: Time & Attendance in. This type of reader (which gives an IN status) is used to enter an area. This reader does not release a door a second time until that credential is presented to a T&A out reader connected to the same controller or, if you selected Enable global T&A on the Settings Tab of the Preference form, a different controller. **T&A out**: Time & Attendance out. This type of reader (which gives an OUT status) is used to leave an area. This reader does not release a door a second time until that credential is presented to a T&A in reader connected to the same controller or, if you selected Enable global T&A on the Settings Tab of the Preference form, a different controller. **In required**: This type of reader opens the door only if the credential presented currently has an IN status. For example, if you had a credential with a status of OUT and attempted to gain access through a reader that was marked as In required, the door would not open.· **Elevator**: This type of reader is used for elevator control. This is set up using the Elevator Tab of the Elevator form. **T&A In/Out**: Time & Attendance In/Out. This type of reader is used ONLY for Wiegand Swipe Readers, such as the Model 100. To get an IN status, hold the credential so that the front of the credential is facing you. (The logo is usually printed on the front of the credential.) Then swipe the credential through the reader. To get an OUT status, turn the credential around so that the back of the credential is now facing you. Swipe the credential through the reader.

Table 58. Form fields (continued)

Element	Description
APB and T&A Options	• **Passive APB and T&A**: **Note:** This option is not available for readers associated with ACU controllers. If you are using an anti-passback (APB) reader or time and attendance (T&A) reader, enable this field for the reader to function as a Normal type reader thereby allowing any valid credential to unlock the door regardless of the credential's IN/OUT status. However, the credential's status is still logged as IN or OUT according to the reader used and is recorded as such in the credential history. Use this if you want to record APB or T&A without preventing unauthorized persons from accessing doors. **Example**: Timing begins when a credential is presented to an IN reader. Until that time expires, the user cannot enter again regardless whether they went through an OUT reader. If a user tries to go through the IN reader a second time, the controller sends an invalid Timed APB message to the host. • **Timed APB (min)**: This field is enabled when you select a Logical type as 'APB in.' The default of this field is '0.' Enter a number between 0 and 255. • **Multiple Exiting Areas**: This option allows you to assign additional Areas that have readers that can be used as an alternative exit when leaving the Area that you entered. These Areas may be attached or part of a common area with no readers in between. A credentialholder who is exiting a common Area is also registered as 'in' any of the other Areas. Exit can be granted from the common area or any of the other Areas assigned here and the credential exit status is reset. • **Assign**: Click to display a list of Areas that are available to be assigned as an alternative or additional exit when leaving the Area that you entered. Only Areas in the operators' facilities are available for assignment by this operator.
Keypad Options	***This feature is for systems using Micro controllers.***· Max Invalid PIN Count: 1) Select this check box if you want your system to suspend credentials after an invalid PIN is entered and a credential is presented at a reader a configured number of times. 2) Then, enter a number between 1 and 6 as the number of times an invalid PIN code is entered at a system reader before the credential is suspended. The default of this field is '3.' 3) If suspended, the credential must be changed to active by a system administrator. **Note:** If the Preference form is set to grant access on duress, access is granted and the credential transaction displays as Valid Duress. If the Preference form is not set to grant access on duress, the door does not open and the transaction is Invalid Duress. If set to monitor, an alarm is generated in both instances.
Keypad Entry Card number Length	***This drop-down list is available for systems configured with ACU controllers.*** This is the number of PIN digits that the keypad reader can accept. From the drop-down list, select **None** or a minimum of 4 and a maximum of 9.

Table 58. Form fields (continued)

Element	Description
Enable 'Valid No Passage'	***Note:*** *This option is applicable to readers associated with Micro controllers.* (This option is selected by default.) Select this check box if you want your system to notify you when a valid credential read occurs but the door did not open within the configured unlock time. This may be an indication of someone deciding not to pass through the door, or an accidental read as someone passes a reader. • This feature must be associated with an alarm type of Door Forced or Door Held in order to be notified of a change in state of the door. • In order to notify of a duress situation, Grant Access on Duress must be configured on the Preference form.

How to

1. Review the guidelines in *Table 58* and complete the fields on this tab according to the reader type that you are configuring.

   Also see:

   - *Read and keypad type reader on page 117*
   - *Keypad only type reader on page 118*
   - *Normal type reader on page 118*
   - *Keypad alarm shunting on page 118*

2. Click **Save** before you exit this tab.

Read and keypad type reader

Note: Only reader module door inputs and 20DI module input points can be shunted from a keypad. (To identify a reader module door input, look for a default description that follows this format: `0001-1-01 Reader`. To identify a 20DI module input point, look for a default description that follows this format: `0001-1-01 DI`.)

Follow the steps below to shunt alarm groups within a controller connected to a keypad and credential reader:

1. Press the start key on the keypad. The start key is labeled with either an asterisk <*> or a plus <+> depending on the reader model.
2. Enter one of the following:

   0 - to turn monitoring off

   1 - to turn monitoring on
3. Enter the alarm group number (00 to 15) you want shunted.
4. Press the end key that is labeled with either a pound sign (#) or an <x>.
5. Present a valid credential to the reader.
6. Press the start key on the keypad again.
7. Enter your Personal Identification Number (PIN) on the keypad.
8. Press the end key (<#> or <x>).

Keypad only type reader

Note: Only reader module door inputs and 20DI module input points can be shunted from a keypad. (To identify a reader module door input, look for a default description that follows this format: `01-1-01 Reader`. To identify a 20DI module input point, look for a default description that follows this format: `01-1-01 DI`.)

Follow the steps below to shunt alarm groups within a controller connected to a keypad reader.

1. Press the start key on the keypad. The start key is labeled with either an asterisk <*> or a plus <+> depending on the reader model.
2. Enter one of the following:

   0 - to turn monitoring off

   1 - to turn monitoring on
3. Enter the alarm group number (00 to 15) you want shunted.
4. Press the end key that is labeled with either a pound sign (#) or an <x>.
5. Press the start key on the keypad again.
6. Enter your credential number on the keypad.
7. Press the end key (<#> or <x>).

Normal type reader

Follow the steps below to shunt alarm groups within a controller connected to a normal reader.

1. Press the start key on the keypad. The start key is labeled with either an asterisk <*> or a plus <+> depending on the reader model.
2. Enter one of the following:

   0 - to turn monitoring off

   1 - to turn monitoring on
3. Enter the alarm group number (00 to 15) you want shunted.
4. Press the end key which is labeled with either a pound sign (#) or an <x>.
5. Present a valid credential to the reader.

Keypad alarm shunting

The keypad alarm shunting feature allows you to turn the monitoring of a group of alarms off or on using the keypad. This can also be accomplished by setting up a schedule for an alarm group using a time schedule.

Note: Only reader module door inputs and 20DI module input points can be shunted from a keypad.

- To identify a reader module door input, look for a default description that follows this format: 0001-1-01 Reader.
- To identify a 20DI module input point, look for a default description that follows this format: 0001-1-01 DI.

Door Functions tab

Use this tab to define the door settings associated with the selected reader.

Figure 40. Door Functions tab

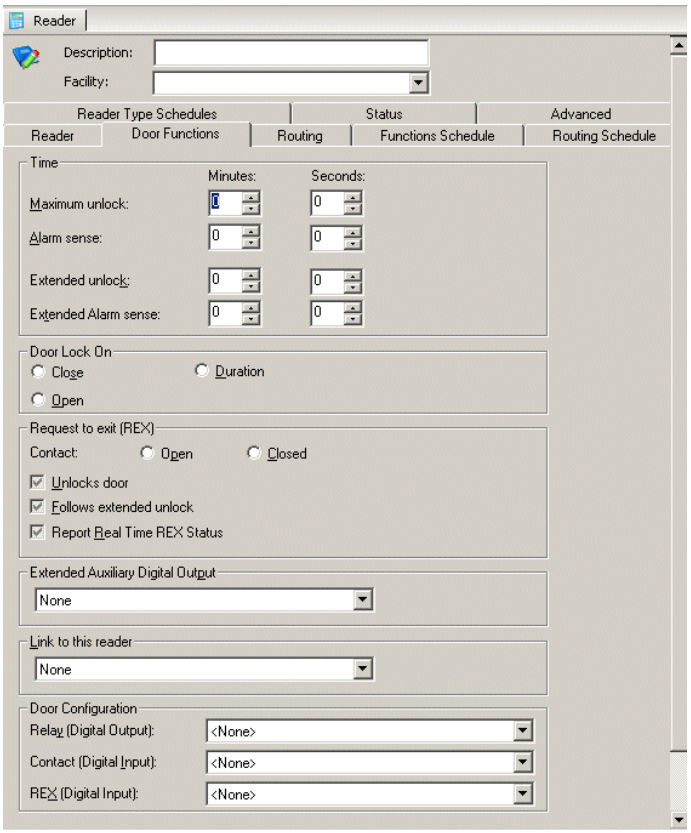


Table 59. Form fields

Element	Description
Time	**Maximum unlock**: The time interval in minutes and seconds that a door remains unlocked after the reader reads a valid credential. This is the amount of time that a user has to open a door based on a valid input. 1) Enter a number between 0 (minimum) and 60 (maximum) minutes. 2) Enter a number between 0 (minimum) and 59 (maximum) seconds. **Example:** A facilities employee may be required to move equipment or furniture in and out of rooms. The assignment requires a block of time beyond the normal unlock time as configured and sufficient time to empty or fill rooms through which access is gained by a reader and valid facility credential. **Alarm sense**: The time interval in minutes and seconds that a door can remain open (with a valid credential read or an exit request). This time must always be greater than the maximum unlock time. 1) Enter a number between 0 (minimum) and 62 minutes. 2) Enter a number between 0 (minimum) and 59 (maximum) seconds. The Alarm sense time for the Reader and the DI Sense Time on the DI form are added together to determine the total time that a door can remain open before the system triggers a Door Held Open alarm. **Extended unlock**: The extended time interval in minutes and seconds that a door remains unlocked after the reader reads a valid credential. 1) Enter a number between 0 (minimum) and 60 (maximum) minutes. 2) Enter a number between 0 (minimum) and 59 (maximum) seconds. **Example**: If the door is used by handicapped persons or the reader is mounted at a distance from the door, a longer unlock time may be required. If a 0 is entered in this field, the current state of the reader is changed (or toggled) to its opposite state. The standard situation is the first credential read causes the door to unlock and the next credential read toggles the door locked. This time interval is also used if you selected Duration in the Door Lock On field below. **Extended Alarm sense**: This time interval is calculated automatically and is a read-only entry.

Table 59. Form fields (continued)

Element	Description
Door lock on	Once the door is unlocked, this field allows you to specify when the door should relock. **Close**: With this option, when the door is closed, the door locks immediately regardless of the Maximum Unlock Time (Maximum unlock field above) and the Alarm Sense Time (Alarm sense field above) is reset to zero. **Open**: With this option, when the door is opened, the Maximum Unlock Time (Maximum unlock field above) is set to zero and the door locks. When the door is closed at any time during this process, the Alarm Sense Time (Alarm sense field above) is reset to zero. **Duration**: With this option, after the Maximum Unlock Time (Maximum unlock field above) expires, the door locks and the Alarm Sense Time is reset to zero. During the Maximum Unlock Time, the state of the door does not affect the Maximum Unlock Time or the Alarm Sense Time.
Request to exit (REX)	***This option available for readers associated with Micro controllers.*** Contact: **Open**: Enable this option if the Exit Request button is wired as open for an exit request. **Closed**: Enable this option if the Exit Request button is wired as closed for an exit request.· **Unlocks door**: Select this check box if you want the door to unlock when an exit request button is pushed.· **Follows extended unlock**: Select this check box if you want this REX to follow the time limits as configured for 'Extended unlock.' **Send Real Time REX Status**: Select this check box if you want REX transactions to display in real time.
Extended auxiliary digital output	Select an output from the drop-down list of available Digital Output points. This output follows the Extended unlock time configurations and must be on the same controller as this reader.
Link to this reader	Use this field to link this reader to another reader on the same controller. Select a reader from the drop-down list.

Table 59. Form fields (continued)

Element	Description
ACU Controller options **Door options**	Complete applicable selections in this grouping **Relay (Digital Output):** Select from the drop-down list of available DO points. This output operates the door strike for this reader. The door strike DO is built into the unit. The default is 0. • Default: The DO number for the RRE based on the reader number selected. • Other DOs available on the associated ACU controller. The installer has selected a DO other than 0 for the door strike DO. If you are not certain which DO is being used for the door strike, contact the installer.· • None: Use this selection when there is no door strike DO. **Note:** When configuring paired readers, both readers use the same door access DO.· **Contact (Digital Input):** Select from the drop-down list of available DIs. If the controlled door has a contact, it can be used to monitor the door status. • Default: The door contact is automatically set as the first alarm point on the reader or reader interface. • Other alarms available on the associated ACU controller. The installer has selected an alarm other than 1 for the door contact. If you are not certain which alarm point is being used, contact the installer. • None: Use this selection when the door is not monitored for open status. The setting None sends a "Door Used" message to the host when antipassback is active. **Note:** When configuring paired readers, both readers use the same door contact. **REX (Digital Input)**: Select the alarm point from the drop-down list that is connected to the REX device for this reader.· • Default: The REX alarm point is automatically set as the second alarm point on the reader or reader interface. • Other alarms available on the associated ACU controller. The installer has selected an alarm other than 2 for the door contact. If you are not certain which alarm point is being used, contact the installer.· • None: Use this selection when the door is part of paired readers controlling an antipassback secure Area. REX is initiated by a reader rather than an alarm point. **Note:** When configuring paired readers, door contacts and the REX input points are the same. Paired readers are used to control a door from both directions. This is important when using anitpassback secure Areas.

How to

1. Review the guidelines in *Table 59* and complete the fields on this tab according to the reader and controller type that you are configuring.
2. Click **Save** before you exit this tab.

Routing tab

Use this tab to define where transactions on the reader are sent. You have three options: credential history, Activity Monitor, and a credential transaction printer. Credential transactions print only if the transaction is routed to the printer, the credential transaction printer is enabled, and a credential transaction printer is selected.

Figure 41. Routing tab

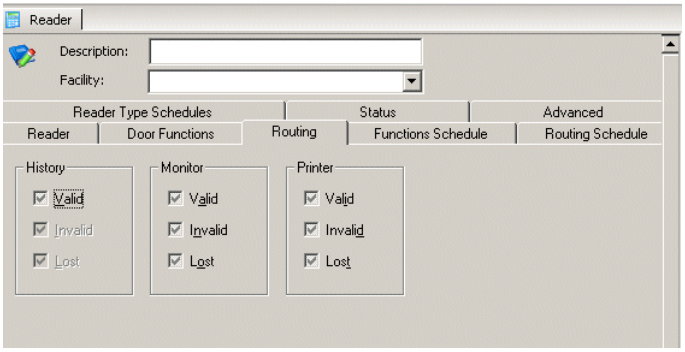


Table 60. Form fields

Element	Description
History	**Valid**: Enable this field if you want valid credential transactions recorded in credential history. **Invalid**: Invalid credential transactions are always recorded in credential history. This default is a read-only field and cannot be changed. **Lost**: Lost credential transactions are always recorded in credential history. This default is a read-only field and cannot be changed.
Monitor	**Valid**: Enable this field if you want valid credential transactions to display on the Activity Monitor form. **Invalid**: Enable this field if you want invalid credential transactions to display on the Activity Monitor form. **Lost**: Enable this field if you want lost credential transactions to display on the Activity Monitor form.
Printer	**Note:** The enabling and selection of the credential transaction printer is done on the Client form. **Valid**: Enable this field if you want valid credential transactions to be sent to the credential transaction printer. **Invalid**: Enable this field if you want invalid credential transactions to be sent to the credential transaction printer. **Lost**: Enable this field if you want lost credential transactions to be sent to the credential transaction printer.

How to

1. Review the guidelines in *Table 60* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Functions Schedule tab

Use this tab to select the schedules that are used to set a reader offline/online or lock/unlock a door. Time schedules define intervals which include a start AND an end time for different days of the week and modes. At the start of the schedule, the state of the reader changes to the scheduled value. At the end of the schedule, the state of the reader returns to the nonscheduled value. For example, if a reader is scheduled online, it returns to offline at the end of the schedule.

Figure 42. Functions Schedule tab

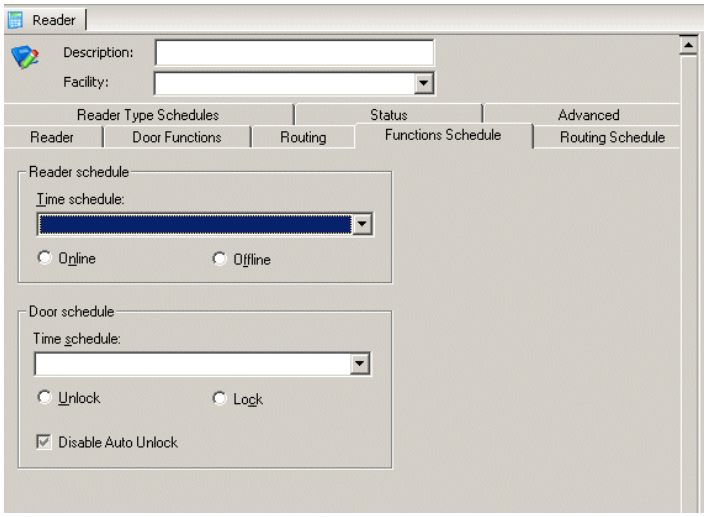


Table 61. Form fields

Element	Description
Reader schedule	**Time schedule**: Select a time schedule from the drop-down list. **Online/Offline:** Select whether the schedule chosen above sets the reader online or offline.

Table 61. Form fields (continued)

Element	Description
Door schedule	**Time schedule**: Select a time schedule from the drop-down list. **Unlock/Lock**: Select whether the schedule chosen above locks or unlocks the door controlled by this reader. **Disable Auto Unlock**: Select this check box to temporarily disable the schedule that would automatically unlock a door at the start of a new time schedule. When a valid credential is presented to the reader for the first time and during the current time schedule in effect, the door unlocks for the first time and the schedule is now in place, as configured. If no valid access has been detected from start of schedule to current time, the controller continues to wait for a valid credential access before implementing the schedule. If a Lock schedule is selected, this feature is grayed out and not available for selection. **Example**: This is particularly helpful if a snowday or hurricane prevents employees from entering the building at the normal time. Although the current schedule would normally unlock the door, the door remains locked until the first employee arrives at the reader and presents a valid credential.

How to

1. Review the guidelines in *Table 61* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Routing Schedule tab

The features on this tab are available for readers associated with Micro controllers.

Use this tab to select the schedules that are used to determine when valid transactions are sent to the history file, monitor, and/or printer. Time schedules define intervals which include a start AND an end time for different days of the week and modes. At the start of the schedule, the routing of the transactions changes to the scheduled value. At the end of the schedule, the routing of the transactions returns to the nonscheduled value. For example, if valid transactions are scheduled to route to history, the transactions stop being routed to history at the end of the schedule.

Figure 43. Routing Schedule tab

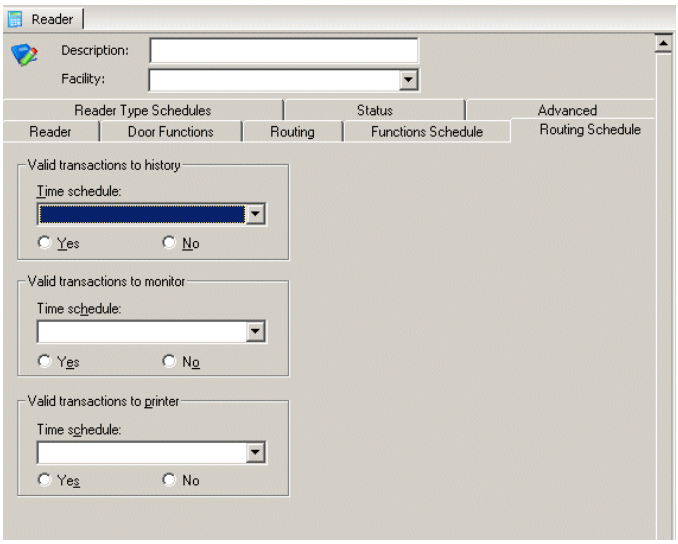


Table 62. Form fields

Element	Description
Valid transactions to history	**Time schedule**: Select a time schedule from the drop-down list. **Yes/No:** Select Yes if the above schedule is when you want valid transactions to be saved to the history file or No if the above schedule is when you do not want valid transactions to be saved to the history file.
Valid transactions to monitor	**Time schedule**: Select a time schedule from the drop-down list. **Yes/No**: Select Yes if the above schedule is when you want valid transactions to be displayed on the Activity Monitor form or No if the above schedule is when you do not want valid transactions to be displayed on the Activity Monitor form.
Valid transactions to printer	**Time schedule**: Select a time schedule from the drop-down list. **Yes/No:** Select Yes if the above schedule is when you want valid transactions to be sent to the printer or No if the above schedule is when you do not want valid transactions to be sent to the printer.

How to

1. Review the guidelines in *Table 62* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Reader type schedules tab

Use this tab to select the schedules that are used to determine when a reader is used as a Normal, Credential/ Keypad, or Keypad reader.

Event schedules define start time(s) and day(s) only. There is no end associated with a reader schedule event. Therefore, that event schedule stays in effect until another schedule changes it or you change it manually.

Figure 44. Reader Type Schedules tab

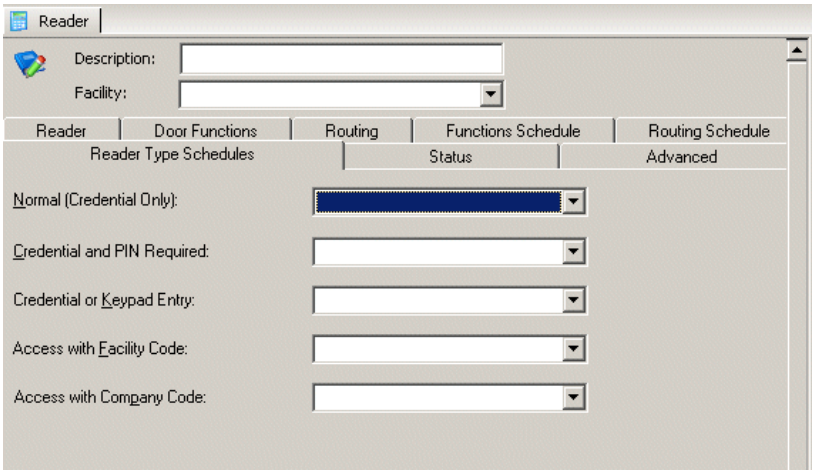


Table 63. Form fields

Element	Description
Normal (Credential Only)	Select an event schedule from the drop-down list. *(If this system uses ACU controllers, time schedules display.)* This reader is then used as a Normal reader beginning at the time and day given. Present your credential.
Credential and PIN Required	Select an event schedule from the drop-down list. *(If this system uses ACU controllers, time schedules display.)* This reader is then used as a credential and keypad reader beginning at the time and day selected. Present your credential and enter a PIN.
Credential or Keypad Entry	Select an event schedule from the drop-down list. *(If this system uses ACU controllers, time schedules display.)* This reader can be used to present a credential or enter a PIN beginning at the time and day selected. Present your credential or enter a PIN.
The following fields are for systems with ACU controllers:	
Access with Facility Code	**Access with Facility Code**: Select a time schedule during which access is granted if the Facility Code on the credential and person record is correct for access to this reader.
Access with Company Code	**Access with Company Code**: Select a time schedule during which access is granted if the Company Code on the credential and person record is correct for access to this reader.

1. Review the guidelines in *Table 63* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Status tab

Select this tab to view information about the reader as currently stored in the controller's database. This is a read-only windowpane, in two-column format, as follows:

Figure 45. Status tab

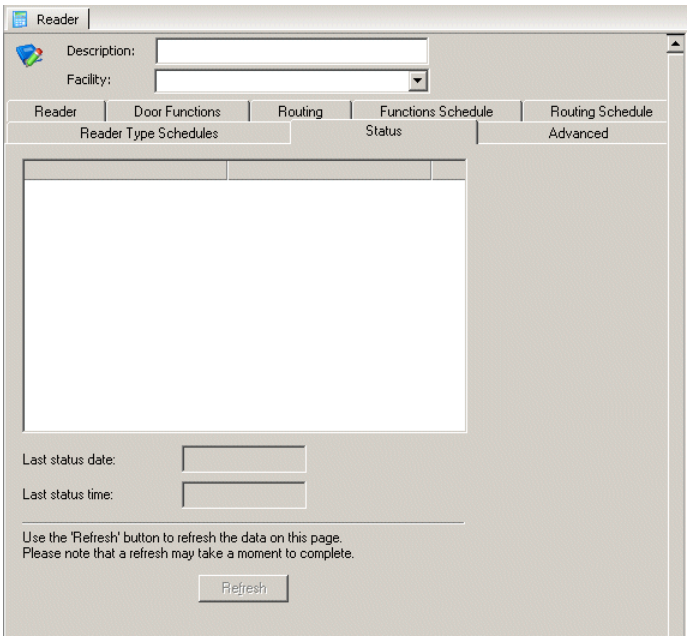


Table 64. Form fields

Element	Description
Display windowpane	***Micro controllers:*** **Physical Type**: Displays the actual reader type: Normal, Credential and Keypad, and Credential or Keypad. **Logical Type**: Displays the reader type this reader is being used as: Normal, APB In (anti-passback In), APB Out (antipassback Out), T&A In (time & attendance in), T&A Out (time & attendance out), In Required, and Elevator. **Online Status:** Displays Online if the reader is currently online and Offline if the reader is currently offline. **Routing for Valid Transactions**: • History: Whether valid transactions are being routed to history. • Monitor: Whether valid transactions are being routed to the Activity Monitor form. • Printer: Whether valid transactions are being routed to the printer. **Active Access Rights**: Displays a list of access rights that are currently active. ***ACU controllers:*** **Reader Status**: Displays Online if the reader is currently online and Offline if the reader is currently offline. **Reader State**: Display Idle (Ready) if the reader is online and active. **Door Status**: Displays Open or Closed. **Door Mode**: Displays Normal, Overlapped Door Open, or Overlapped Door Closed. **Keypad Enabled**: Displays Disabled or Enabled. **Reader Firmware Version**: Displays a version number, if applicable.

Table 64. Form fields

Element	Description
Last status date	Displays the date when the status was last requested.
Last status time	Displays the time when the status was last requested.
Refresh	Click to receive the current status information for this reader from the controller. It may take a moment to complete the refresh of the data. A refresh for a dial-up controller causes the host to dial the controller unless they are already connected. The refresh process may take a few minutes. **CAUTION:** A status refresh requested for a controller that is offline or in error is never returned.

How to

1. Review the guidelines in *Table 64*. This is a read-only form.
2. Request the latest information by clicking **Refresh**. It may take a moment to process refreshing the data.

Advanced tab

(These options are selectable for ACU controllers.)

Use this tab to configure options for readers associated with ACU controllers. These fields are not enabled or selectable if there are no readers associated with this controller.

Figure 46. Advanced tab

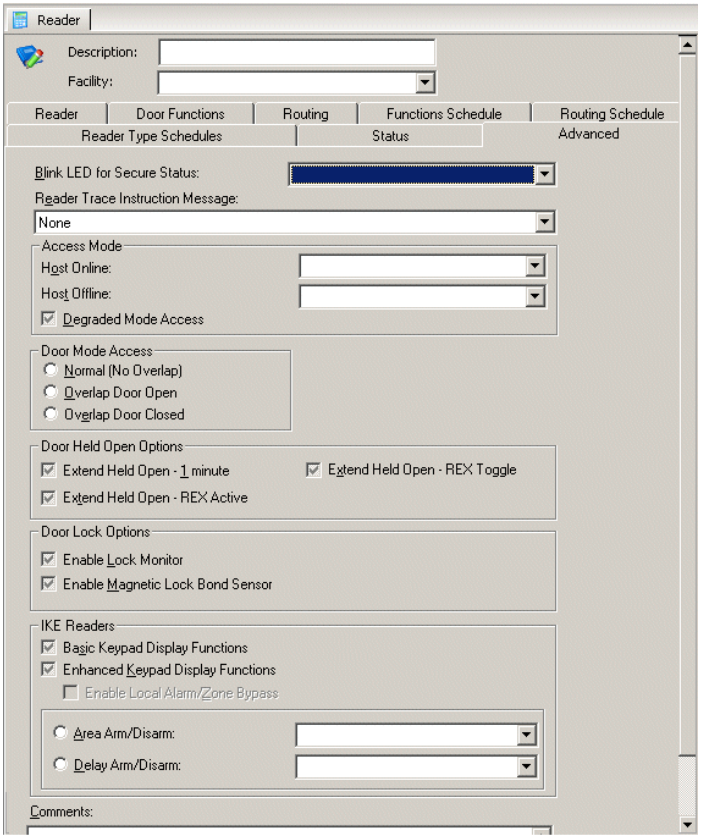


Table 65. Form fields

Element	Description
Blink LED for Secure Status	Select from a drop-down list of available reader LED characteristics. The behavior indicates whether an Area is armed or disarmed. **Always On**: This is the default setting. The red LED on the reader is constantly on.· **Blink On Secure**: This setting causes the LED to blink when the secure Area about to be entered is armed.· **Blink On Unsecured**: This setting causes the LED to blink when the secure Area being entered is disarmed.
Reader Trace Instruction Message	Select from a drop-down list of available instructions in the system for this application, that is an appropriate response to be associated with a trace on this reader. If you need to create a new and appropriate instruction, refer to the Alarms & Events group, Instruction form.

Table 65. Form fields (continued)

Element	Description
Access Mode	**Host Online**: Select a validation option available at this reader when the associated host is online with the controller:· • Normal: Access is granted when a valid credential is presented.· • Company Code: Access is granted when a credential is validated for only a matching company code.· • Facility Code: Access is granted when a credential is validated for only a matching facility code. **Host Offline**: Select a validation option available at this reader when the associated host is offline from the controller:· • Normal: Access is granted when a valid credential is presented.· • Company Code: Access is granted when a credential is validated for only a matching company code. • Facility Code: Access is granted when a credential is validated for only a matching facility code.· • Secure: This is a lock-down mode and no entry is allowed at this reader. **Example**: This feature may be useful during construction of a new section to an existing building. An entrance is being used by construction workers for accessing the construction site. Credential validation is minimal.· **Degraded Mode Access:** Select this option if you want this reader to function even when communication has been interrupted between the controller and the reader. (RREs must be powered separately from the ACU controller. The door contact and relay must be owned by the external module. The reader recognizes the first five company/facility codes only.)
Door Mode Access	**Normal (No Overlap)**: Access is allowed as usual when a valid credential is presented. **Overlap Door Open**: Any number of credentials can be presented at this reader while the door is open and before the door closes.· **Overlap Door Closed**: A second credential can be presented even if the first credentialholder has not yet opened the door.
Door Held Open Options	**Select one of the following options:** **Delay Held Open 1 Minute**: When this option is selected, the timer is extended an additional minute after the normal Held Open timer. At the end of the normal Held Open time, the reader's LED signals an alarm. If the door closes before the additional minute expires, the alarm cancels and is not sent to the host.· **Extend Held Open - REX Active**: When the held-open timer expires, an active REX restarts the held-open timer. If this option is not selected, the Held Open timer starts counting as soon as the door opens, and the timer expires even if the REX stays activated with the door open. At the end of the time period, a Held Open alarm is generated. **Extend Held Open - REX Toggle**: If the REX is pressed or released (toggled) before the Held Open timer completes its countdown, the timer restarts until the REX is released long enough for the timer to expire. If this option is not selected, the Held Open timer starts counting down as soon as the door opens and expires even if the REX is released and reactivated.

Table 65. Form fields (continued)

Element	Description
Door Lock Options	**Select one or both of these options:** **Enable Lock Monitor**: This selection indicates if this reader uses door strikes equipped with Lock Monitor switches. If this option is not selected, the reader does not monitor the lock. **Enable Magnetic Lock Bond Sensor**: This feature makes special provisions for compatibility with Bond Sensor outputs of Locknetics mag locks. If this option is not selected, this door does not use the lock sensor. **Note:** This feature is only supported on readers controlled by ACU2 controllers using the RRE Reader module. It should only be used with the Locknetics Model 101ATSDSMMBS Magnetic Lock or approved equivalents.
IKE Readers	**Basic Keypad Display Functions**: When this option is selected, the reader displays a 32-character LCD display that can use various text messages. These messages are prompts such as ARMED, DENIED, or TRY AGAIN. If this option is not selected, messages do not display. **Enhanced Keypad Display Function**: This option is selected by default. When this option is selected, another level of security is added, allowing the user to swipe a credential through the reader rather than entering the number. It can also be used with or without a PIN number after the credential number.· **Enable Local Alarm/Zone Bypass**: This option is available only when Enhanced Keypad Display Functions is selected. When this option is selected, the user is allowed to swipe a credential through the reader or enter a PIN to disarm an alarm. • **Area Arm/Disarm**: Select from a drop-down list of available arm/disarm types, local to this ACU controller. - Local Area Access - Multiple Area/Access - Multiple Area/No Access • **Delay Arm/Disarm**: Select from a drop-down list of available delay arm/disarm types, local to this ACU controller. - Arm/Disarm Delay - Entry with Delay - Exit with Delay This feature provides a mechanism similar to central station home burglar alarm processing. Monitor points can be assigned a delay time during which the alarms can be monitored on/off (armed/disarmed) without generating an alarm report.
Comments:	Use this field to enter a location description or special considerations for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

How to

1. Review the guidelines in *Table 65* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Define digital inputs

Use the Digital Input form, Security Devices group, to modify a digital input record. Digital inputs are physical sensing devices, such as door sensors or motion sensors, used to monitor an electronic contact connected to a controller. When a controller record is created, digital input records are also created. (Refer to *DI module record creation on page 88*.) You cannot delete digital input records. The digital inputs are managed by the associated controller record. The number of digital inputs is based on the controller you set up and modules that the controller contains.

The alarms for digital inputs are not created automatically when you set up a controller. Set the Type field to Alarm and then save the record. The associated alarm record is created. Refer to your Controller Installation Guide for information on how to connect a digital input device to the controller.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button. If you are using this shortcut menu to get to the Schedules form or Events form, all schedule or event records display.

Table 66. Form fields

Element	Description
Description	When the records are created, the default description is in the format: **mmmm-b-pp** where **mmmm** represents the controller number to which this digital input is associated, **b** represents the module number, and **pp** represents the point or device number. **Example**: `0001-1-01 DI` This digital input is on controller 1, module 1, point 1. To change or add to this description, enter text over the existing text and save the record. It is recommended that you keep the **mmmm-b-pp** prefix in each digital input displayed to aid in locating the alarm points on the physical hardware. This field accepts a maximum of 64 characters.
Facility	A facility can be assigned for the new Digital Input record from the Facility drop-down list. **Note:** The same facility is assigned for all devices associated with the controller when a controller is created. Be very careful when assigning the facility of a DI to a different facility than the controller. You can create an undesired result if you do not fully understand facility assignment.

Digital Input tab

Use this tab to configure the selected digital input.

Figure 47. Digital Input tab

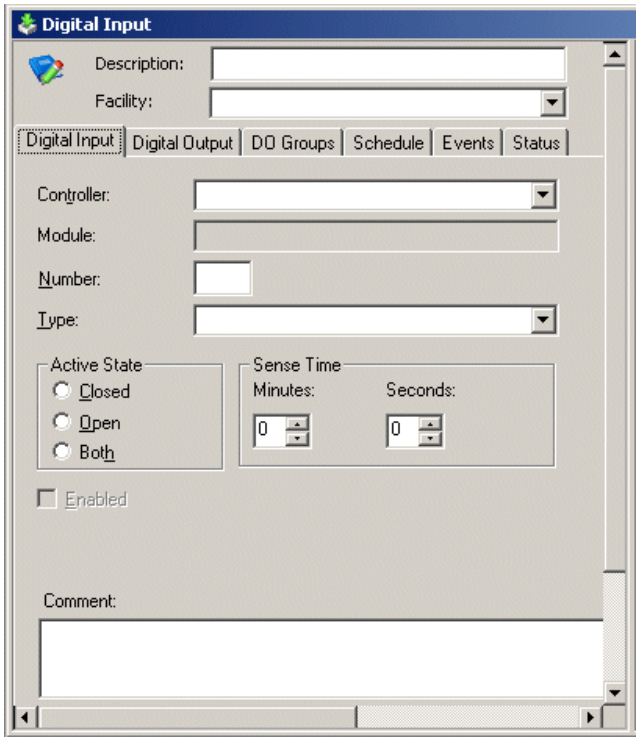


Table 67. Form fields

Element	Description
Controller	Displays the controller description to which this digital input is associated. This is a read-only field and unavailable for modification.
Module	Displays the controller module number where this digital input is located. This is a read-only field and unavailable for modification.
Number	Displays the number of the digital input. This is a read-only field and unavailable for modification.

Table 67. Form fields (continued)

Element	Description
Type	Select the type of DI that you are configuring. If you select another Type, click **Search** to update the list box display of associated triggers. • Alarm means that this digital input is being used to trigger an alarm. • Elevator means this digital input is being used for elevator control. • Inactive means this digital input is not being used at this time.· • Digital Output means this digital input is being used to trigger a digital output and no alarm is generated. • Intrusion means this digital input arms/disarms an intrusion zone. • Guard Tour means this digital input is a point along a pre-determined inspection tour of your premises by a security officer. **Note:** Digital Input Type of Intrusion can only be made if the previous type was Inactive, meaning no other access control digital input was active. (For example, you cannot assign Intrusion type to a DI that was previously set as an Alarm; the DI type must first be Inactive.) Be aware that selection of this type overrides any access control. You cannot assign any access control digital outputs, digital output groups, schedules, or events for this record.
Active State	The active state of a selected digital input can be either Closed or Open. **Note:** A third option, Both, displays as grayed out and unavailable for selection unless the DI Type is Guard Tour. During a Guard Tour, a single-state trigger (one-time "hit") triggers a DO in both states (Closed OR Open).
Enabled	If you selected Digital Output as the Type (defined above), enable this field to trigger DOs. For all other type Digital Inputs, this is a read-only field, enabled, and unavailable for modification.
Sense Time	**Note:** If your system is license for ACU controllers, this option label reads Delay time. Enter or select the amount of time an alarm is delayed from triggering. This is used with Arm Delay. It is the amount of time allowed to enter the secure Area and disarm the alarms using a reader located inside the Area.· **Minutes**: Enter or select a number between 0 and 60.· **Seconds**: Enter or select a number between 0 and 59 seconds. If 60 minutes is already entered, you cannot enter a number of seconds.
Comments	Use this field to enter any special consideration or reminder for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

How to

1. Review the guidelines in *Table 67* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Digital Output tab

This tab is available only if you have selected Digital Output in the Type field on the Digital Input Tab. Use this tab to link digital outputs to a digital input. When this digital input is activated, the digital output is also triggered.

Figure 48. Digital Output tab

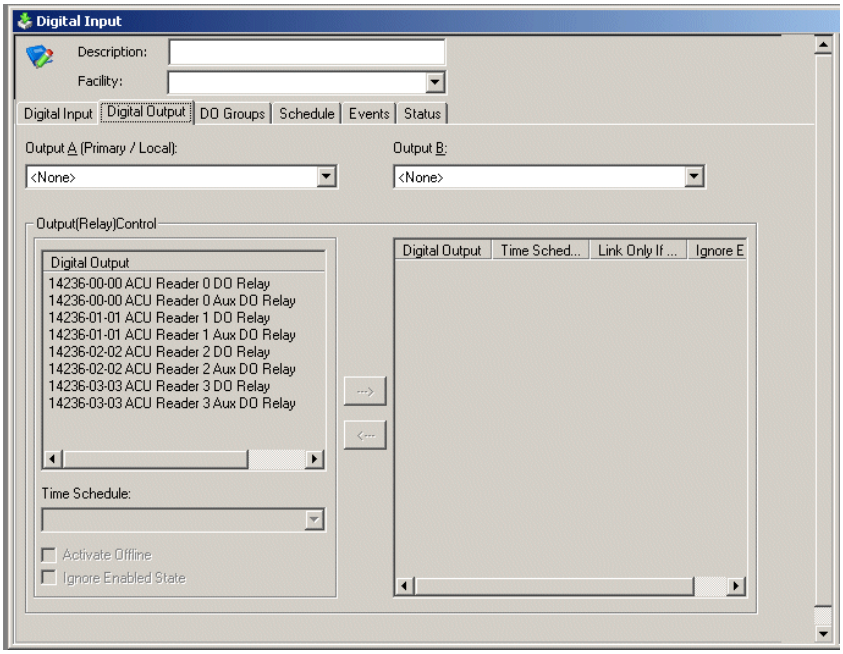


Table 68. Form fields

Element	Description
This section displays for systems configured with Micro controllers:	
Output A (Primary/Local)	A primary input assignment is not required. The default is None. Click the drop-down list to select an available DO to assign as the primary. • If you select an output, this output must belong to the local controller. • If the controller is offline or unable to communicate with the host at the time of an alarm, only the Primary/Local DO is triggered. • If the ON time on the Digital Output form is set to 00, this DO remains active until the digital input is reset.
Output B	Click the drop-down list to select an available DO. • The digital outputs in this list can be on a local controller or other controllers. • Output B is activated only if the host is online and able to communicate with other controllers. • The outputs that display in this list are those that were previously configured and not currently assigned. • This output does not communicate if offline.

Table 68. Form fields (continued)

Element	Description
This section displays for systems configured with ACU controllers:	
Output (Relay) Control	**Available Output (Relay) Windowpane:** Select from the Available list those outputs that you want to assign to this record. The outputs that display in this list are those that were previously configured and not currently assigned. Only outputs in the operator 's facilities are available for assignment by this operator. **Note:** You must assign a Time Schedule in order to move this Output (Relay) to the Selected windowpane. Select, then click the right arrow to assign an available output. **Selected Output (Relay) Windowpane:** The outputs that display are those that are currently assigned to this record. Select, then click the left arrow to unassign an available output.
Time Schedule	Select a time schedule from the drop-down list. The default is None. • If there are none listed, create a time schedule on the Time Schedule form. • If no time schedule is to be assigned, you must select None before you can move a selected output (relay) from the available windowpane to the assigned windowpane.
Activate Offline	The default of this check box is not selected and this link functions during the time schedule regardless of the status of the digital input. If selected, the link between the digital input and output (relay) functions only when the controller is offline. This output (relay) does not function during the selected time schedule. Use this when multiple relays are to be linked to a single input.
Ignore Enabled State	If selected, the output (relay) triggers even when the alarm that has the digital output is not monitored.

How to

1. Review the guidelines in *Table 68* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

DO Groups tab

Use this tab to link digital output groups to a Digital Input. When this Digital Input is triggered, the linked digital output groups are also triggered. The digital outputs remain active until the alarm is reset, regardless of any specified on-time setting for the DOs, unless it is the primary/local group (not applicable for systems using ACU controllers).

- If it is the primary/local group, the DOs follow their specified ON-time setting.
- If there is a reader in the primary/local group, the reader follows the Digital Input state.
- If the DOs in the primary/local group are set to 0 for the ON time, that forces the DO to follow the state of the alarm or input.

Figure 49. DO Groups tab

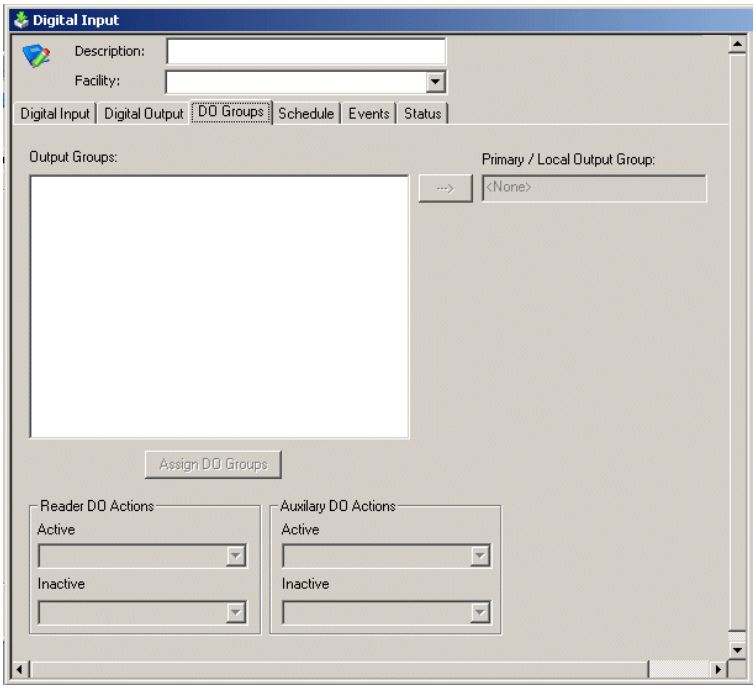


Table 69. Form fields

Element	Description
The following features are applicable to only Micro controllers:	
Output Groups	This windowpane displays assigned digital output groups. The digital output groups can be on a local or other controller.
Assign DO Groups	Click to display a Digital Output Group Assignment dialog box, allowing you to select and assign DO groups you want associated with the selected record. Only DO groups in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available DO group. • Select, and then click the left arrow to unassign a DO group. Click **OK** to display results in the Output Groups windowpane.
Primary/Local Output Group	The first local output group in the list of assigned output groups automatically displays as the primary. You can select another output group as primary from the output groups displayed in the windowpane. If the selection is not on a local controller, the assignment arrow button is dimmed and unavailable for assignment as a primary output group. If the controller is offline or unable to communicate with the host at the time of an alarm, only the Primary/Local DO group is triggered.
This section applies to Micro and ACU controllers: When an alarm is active or a DO event occurs, select the action to be performed on all DOs within all selected DO groups. This action applies to both logical and physical alarms:	

Table 69. Form fields (continued)

Element	Description
Reader DO Actions	**Active/Inactive:** Normal: The door locks and valid credentials unlock the door. Schedules can override this state. Lock (no access): The door locks and does not allow access. Controllers put the readers in an offline state. Schedules can override the state and put the controller back online. Indefinite Unlock: The door is put into an unlock state. Schedules can override the current state.
Auxiliary DO Actions	**Active/Inactive:** On Indefinite: The DO is put into active state indefinitely. Schedules cannot override this state on a controller. Off: The DO is put into the de-active state indefinitely. Schedules cannot override this state on a controller. On for Duration: The DO is put into the active state for the duration defined. Schedules cannot override this state on a controller.

How to

1. Review the guidelines in *Table 69* and complete the fields on this tab.

   Note: Be aware that Invalid Credential alarms and Lost Credential alarms do not reset. If you assign a DO Group to either of these alarms, the alarm goes inactive or turns off when acknowledging or purging.

2. Click **Save** before you exit this tab.

Schedules tab

Note: These options are available for alarms associated with Micro controllers.
These options are available for Auxiliary alarms associated with ACU controllers.

This tab is available only if you have selected Digital Output in the Type field on the Digital Input Tab.

Use this tab to assign a schedule. Time schedules define intervals which include a start AND an end time for different days of the week and modes.

Figure 50. Schedule tab

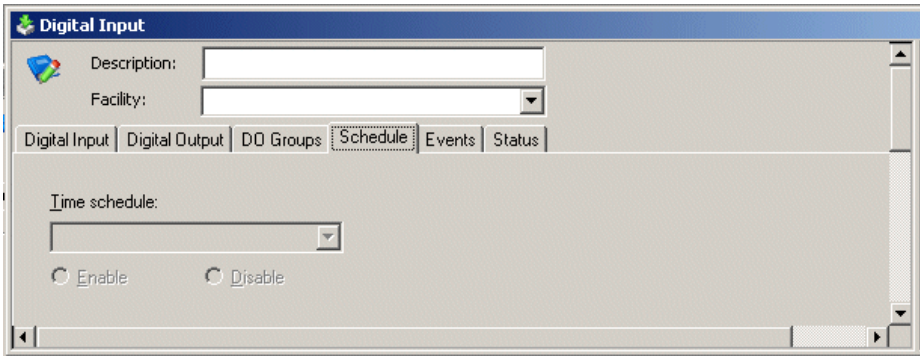


Table 70. Form fields

Element	Description
Time Schedule	Click the drop-down list to select a previously created time schedule.
Enable/Disable	Select **Enable** if you want to enable this digital input when this time schedule starts. Enabling the digital input allows it to then trigger the associated digital output when a state change occurs. Select **Disable** if you want to disable this digital input when this time schedule starts. Disabling the digital input prevents the state change from being reported and the associated digital output from triggering.

How to

1. Review the guidelines in *Table 70* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Events tab

Note: This tab is available for input if the type of Digital Input is Digital Output.

Use this tab to assign events and an associated sense time to this digital input. Events define start time(s) and day(s) only. There is no end associated with an event. Therefore, that event stays in effect until another event changes it or you change it manually.

Figure 51. Events tab

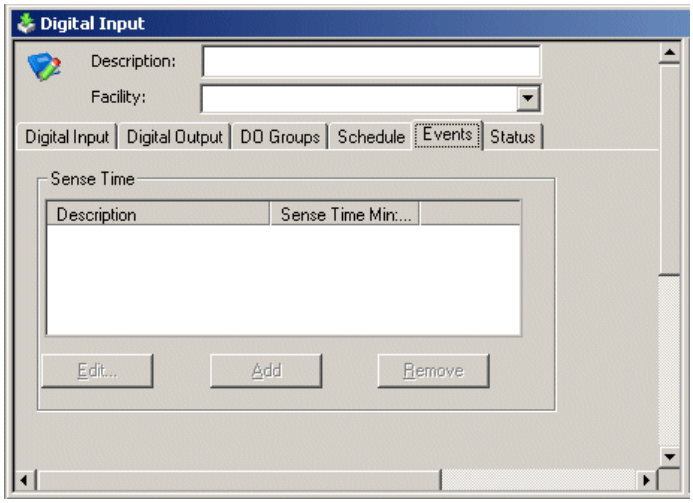


Table 71. Form fields

Element	Description
Sense Time	This windowpane displays which events change the sense time. You can also assign events and sense times to this digital input. **Edit**: This button is available only if there are currently assigned sense time events. Click this button to display the Edit Sense Time dialog box. From here, you can assign an event and sense time or modify the existing sense time assignment. • **Event**: Select an event from the drop-down list. If there are no events listed, you need to configure events using the Event Schedule form. • **New time**: Select or enter a sense time. The value is in seconds and indicates the delay before triggering an associated digital output or sending in an alarm if the DI type is Alarm. This number tells the system how many seconds to wait after sensing the input has changed to Active State. Enter 00 to immediately send the transaction to the host, notifying the host of a state change. Increase the Sense Time entry if using noisy or chattering contacts. **Example**: This value could indicate the delay time, in seconds, that elapses between the time a door contact is broken and the time the output and alarm are triggered. If door contact is closed before the sense time elapses, the alarm would not come in to this application and the output would not activate. **Add**: To add events to the list, select an event and click. The Edit Sense Time dialog box displays. Assign an event and sense time. **Remove**: To remove events from the list, select an event and click.

How to

1. Review the guidelines in *Table 71* and complete this tab.
2. Click **Save** before you exit this tab.

Status tab

Select this tab to display information about the digital input as stored in the controller’s database, such as its sense time.

Figure 52. Status tab

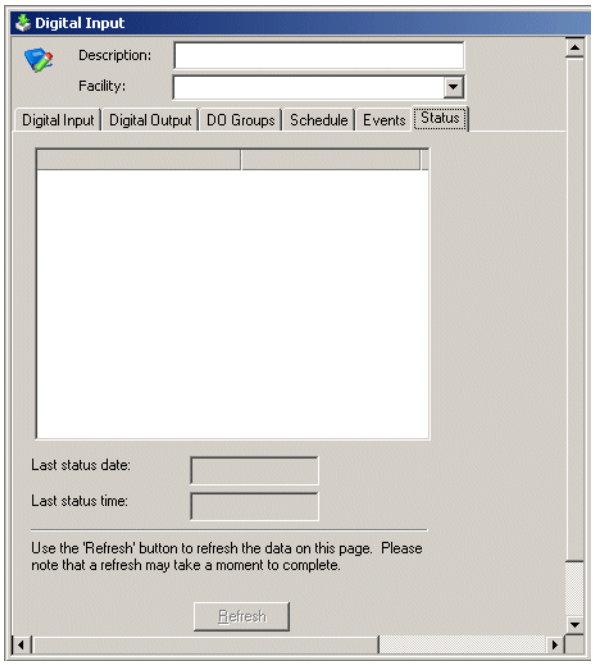


Table 72. Form fields

Element	Description
Sense Time	The sense time as of the last status date and time.
Enabled	Yes/No - Whether the digital input is enabled or disabled as of the last status date and time.
Last status date	The date on which the status was last requested.
Last status time	The time that status was last requested.
Refresh	Click to receive the current status information for this digital input.

How to

1. Review the guidelines in *Table 72*.
2. Request the latest information by clicking **Refresh**. It may take a moment to process refreshing the data.

   Note: A status refresh on a controller that is offline is never returned.

Define digital outputs

Use the Digital Output form, Security Devices group, to search and view or modify an existing digital output record. A digital output represents an external device, such as lights, sirens and door strikes that may be connected to the controller. Refer to your controller installation manual for information on how to connect a digital output device to the controller. The digital outputs available depend on the controller setup and readers used.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button. If you are using this shortcut menu to get to the Schedules form or Events form, all schedule or event records display.

Table 73. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. When the records are created, the default description is in the format: **mmmm-b-pp** where **mmmm** represents the controller number to which this digital output is associated, **b** represents the module number, and **pp** represents the point or device number. **Example**: **0001-1-01 DO** This digital output is on controller 1, module 1, point 1. To change this description, enter over the existing text and save the record. It is recommended that you keep the **mmm-b-pp** prefix in each digital output description displayed to aid in locating the alarm points on the physical hardware.
Facility	A facility option can be assigned for your new Digital Output record from the Facility drop-down list. The default of Ignore Facilities is assigned if no other selection is made. **WARNING: Be very careful when assigning the facility of a digital output to a different facility than the controller. You can create an undesired result if you do not fully understand facility assignment.**

Digital Output tab

Use this tab to schedule when the digital outputs in the group are in the active state and for the specified length of time.

Figure 53. Digital Output tab

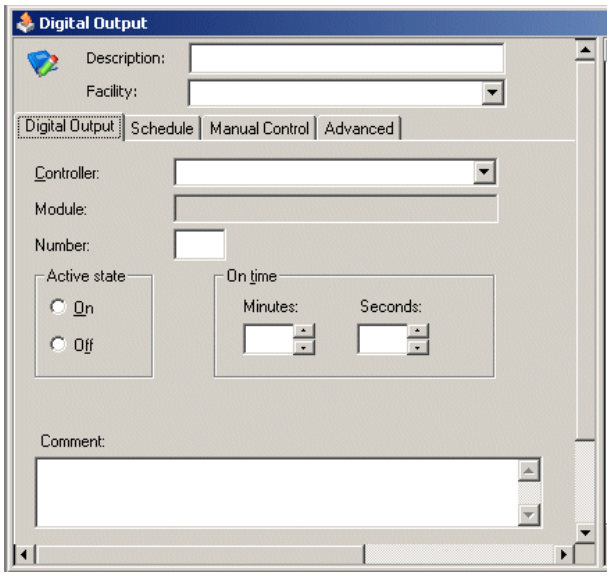


Table 74. Form fields

Element	Description
Controller	This is a read-only field. Displays the description of the controller on which this digital output is located.
Module	This is a read-only field. When the records are created, the default value is in the format: **`mmmm-b Module Type`** where **`mmmm`** represents the controller number to which this reader is associated, **`b`** represents the module number, and **`Module Type`** is the type of reader module, such as 16DO. **Example**: **`0001-1 16DO`** would be the digital output on controller one, 16DO module one.
Number	This is a read-only field and displays the physical address of the digital output.

Table 74. Form fields (continued)

Element	Description
Active State	**On/Off**: Defines whether the digital output is turned On or Off when the digital output is activated. Contact your installer on how the digital output was wired. This determines the active state of the digital output. **On time**: (This feature is disabled for ACU controllers with a DO assigned to a reader.) Specify the length of time, in minutes and seconds, the digital output remains in the active state before going inactive. The time may be overridden by the manual control buttons. The default setting is 10 seconds. ***If this is a Micro controller***: • For minutes, enter a number between 0 (minimum) and 62 (maximum). • For seconds, enter a number between 0 (minimum) and 59 (maximum). If you enter 0 and this is: • Output A, then the digital output resets when the alarm resets. • Output B, then the digital output remains on until it is manually turned off or scheduled off. ***If this is an ACU controller*:** With a DO assigned to a reader, this field is disabled and the read-only time fields display what was configured on the Reader form. This field is enabled if no Digital Output (Relay) door option is assigned on the Reader form, Door Functions tab. • For minutes, enter or select a number between 0 (minimum) and 255 (maximum). • For seconds, enter or select a number between 0 (minimum) and 59 (maximum). When the output (relay) is linked to one or more alarms, the momentary contact time does not begin until the alarm returns to the inactive position, thus extending the active time. **Example**: If the momentary contact time is set to 10 seconds, and the alarm is in the alarm state for 12 seconds, the output (relay) is active for a total of 22 seconds beginning when the alarm entered the alarm state.
Comments	Use this field to enter a location description, reason for creating this record, or special considerations for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

How to

1. Review the guidelines in *Table 74* and complete the fields on this tab.

   When a controller is reset or the database is reloaded, all schedules from midnight to present time run EXCEPT for schedules that have a DO **On** time NOT equal to zero and were set to occur prior to the current time.

   Example: You have created a schedule to occur at 8:00 am to activate a digital output 1 minute. At 10:00 am, the database for the controller is downloaded. During the download process, all schedules from Midnight to the current time (10:00 am) are re-run. Your schedule for the 8:00 am DO does not run since it started and ended before the current time of 10:00 am.

2. Click **Save** before you exit this tab.

Schedule tab

Use this tab to define schedules for turning digital outputs (DO) on or off. Time schedules define intervals that include a start AND an end time for different days of the week and modes. At the start of the schedule, the state of the DO changes to the scheduled value. At the end of the schedule, the state of the DO returns to the nonscheduled value.

Example: If the DO is scheduled On, the DO returns to Off at the end of the schedule.

Figure 54. Schedule tab

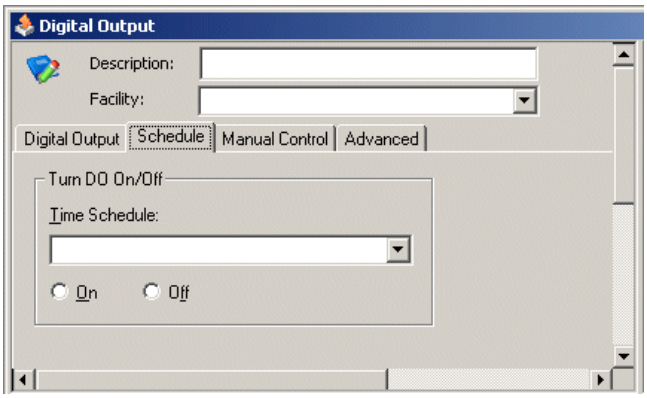


Table 75. Form fields

Element	Description
Turn DO On/Off	**Time Schedule**: Select a time schedule from the drop-down list. This determines when the DO automatically turns on and off. The default is None. **On/Off**: Select On if the above schedule is when you want the digital output to be in the Active state. Select Off if the above schedule is when you want the digital output to be in the Inactive state. *Off is not available for systems configured with ACU controllers.*

How to

1. Review the guidelines in *Table 75* and complete this tab.
2. Click **Save** before you exit this tab.

Manual Control tab

Use this tab to manually set the state of a specified digital output.

Figure 55. Manual Control tab

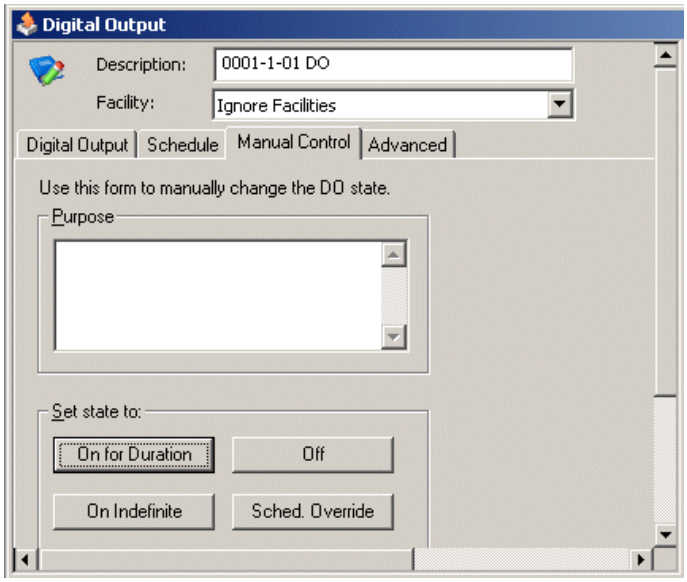


Table 76. Form fields

Element	Description
Purpose	This field accepts 255 characters. Enter the reason for manually changing the state of the specified digital output. The text entered here is recorded in Operator History.
Set state to	**On for Duration**: Click to set the selected digital output to its Active state for the On time specified on the Digital Output tab. **On Indefinite**: Click to set the selected digital output to its Active state until it is manually set to its inactive state. The only way to turn it off is by selecting Off on this tab or Off on the Manual Door/DO Control form. **Off**: Click to set the selected digital output to its inactive state. **Sched. Override**: Use this option to change the state of the DO if you want the schedule to override its setting. For example, use Sched. Override to unlock a door if you want a schedule at a later time to lock this door. If you don't want the scheduler to lock your door, use the On Indefinite selection.

How to

1. Review the guidelines in *Table 76* and complete this tab.
2. Click **Save** before you exit this tab.

Advanced tab

Note: The options on this tab are available and enabled only when the controller type is an ACU controller.

Use this tab to link digital outputs to an alarm. When this alarm is activated, the digital output is also triggered.

Example: The digital output is a siren. An alarm is generated when a door forced alarm is generated. Because the digital output (siren) is linked to the Power alarm, the siren sounds when the alarm is generated.

Figure 56. Advanced tab

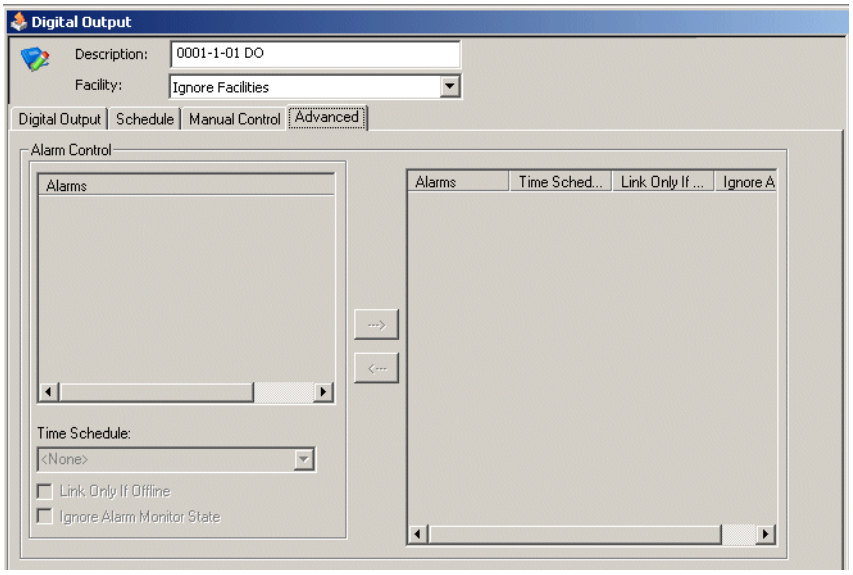


Table 77. Form fields

Element	Description
Alarm Control	**Available Alarms Windowpane**: Select from the Available list those alarms that you want to assign to this record. The alarms that display in this list are those that were previously configured and not currently assigned. Only alarms in the operator's facilities are available for assignment by this operator. **Note:** You must assign a Time Schedule in order to move this Alarm to the Selected windowpane. Select, then click the right arrow to assign an available alarm. **Selected Alarm Windowpane**: The alarms that display are those that are currently assigned to this record. Select, then click the left arrow to unassign an available alarm.
Time Schedule	Select a time schedule from the drop-down list. • If no time schedule is to be assigned, you must select **None** before you can move a selected output (relay) from the available windowpane to the assigned windowpane. • If there are none listed, create a time schedule on the Time Schedule form.
Link Only If Offline	The default of this check box is not selected and this link functions during the time schedule regardless of the status of the alarm. If selected, the link between the digital input and alarm functions only when the controller is offline. This alarm does not function during the selected time schedule. Use this when multiple alarms are to be linked to a single input.
Ignore Alarm Monitor State	If selected, the output (relay) triggers even when the alarm that has the digital output is not monitored.

How to

1. Review the guidelines in *Table 77* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Define digital output groups

Use the Digital Output Group form, Security Devices group, to assign digital outputs to a group and schedules to digital output groups. Digital output groups provide an easy, convenient way of scheduling many digital outputs at once. To create digital output groups, manually create the groups and then assign the digital outputs to them.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button. If you are using this shortcut menu to get to the Schedules form, all schedule records display

Table 78. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. Assign a unique title to this record.
Facility	A facility option can be assigned from the drop-down list of available facilities. The default of Ignore Facilities is assigned if no other selection is made. **Note:** If you assign DOs that belong to a different facility, you may be creating an undesired result; not all DOs are visible under certain facilities.

Group tab

Use this tab to assign digital outputs to a selected digital output group on a specified controller.

Figure 57. Group tab

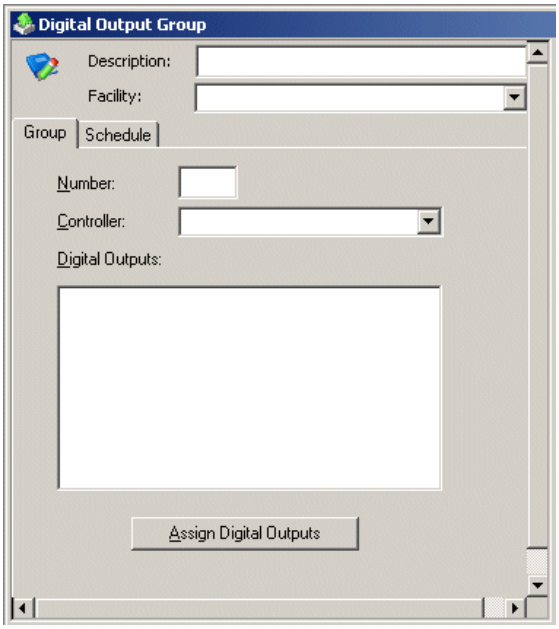


Table 79. Form fields

Element	Description
Number	This is a read-only field displaying the number assigned to the digital output group.
Controller	This is a read-only field displaying the description of the controller on which this digital output group is located.
Digital Outputs	This windowpane displays the digital outputs assigned to this group.
Assign Digital Outputs	Click this button to display the Digital Output Assignment dialog box. This dialog box allows you to select and assign digital outputs you want associated with the selected record. Only digital outputs in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available digital output. • Select, and then click the left arrow to unassign a digital output. Click **OK** to display results in the Digital Outputs windowpane.

How to

1. Review the guidelines in *Table 79* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Schedule tab

Use this tab to define schedules for turning all digital outputs in a selected digital output group on or off.

Figure 58. Schedule tab

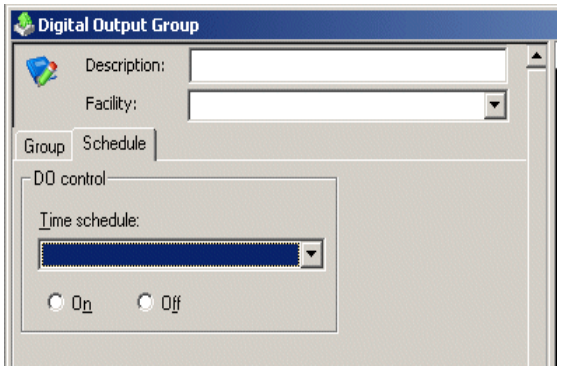


Table 80. Form fields

Element	Description
DO control	**Time Schedule**: Select a time schedule from the drop-down list. **On/Off**: Select On if the above schedule is when you want the digital outputs in the selected digital output group to be in the Active state. Select Off if the above schedule is when you do not want the digital outputs in the selected digital output group to be in the Active state.

How to

1. Review the guidelines in *Table 80* and complete this tab.
2. Click **Save** before you exit this tab.

Define instructions

Use the Instruction form, Alarms & Events group, to create messages that display on the Alarm Monitor form whenever the associated alarm occurs. Instructions are directions on how to react to specific transactions.

Table 81. Form fields

Element	Description
Facility	A facility option can be assigned from the drop-down list of available facilities. The default of Ignore Facilities is assigned if no other selection is made.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Instruction tab

Use this tab to create instructions on how to react to specific transactions. The instructions should belong to the same facility as the transaction with which they are associated.

Figure 59. Instruction tab

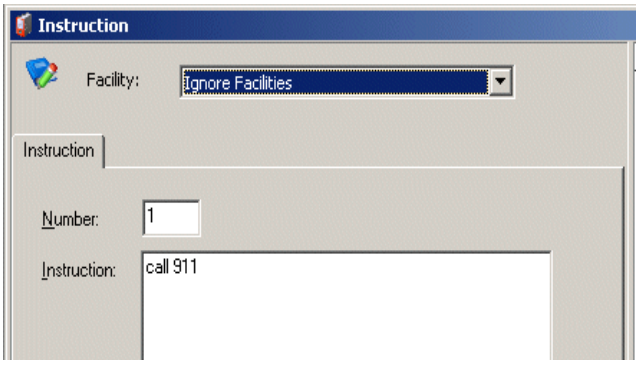


Table 82. Form fields

Element	Description
Number	Assign a number to the instruction records. The range for instructions is 0 to 254 for a total of 255 instructions.
Instruction	Enter the text you want to display when the associated transaction occurs. The instruction can be 1 to 500 alphanumeric characters in length.

How to

1. Review the guidelines in *Table 82* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Define alarm responses

The Response form, Alarms & Events group, allows you to create a list of frequently used, predefined responses to an alarm, and reduces the need to type an entry. A response describes a reaction to an alarm. The response entries that you create display as selections on the Alarm Monitor form.

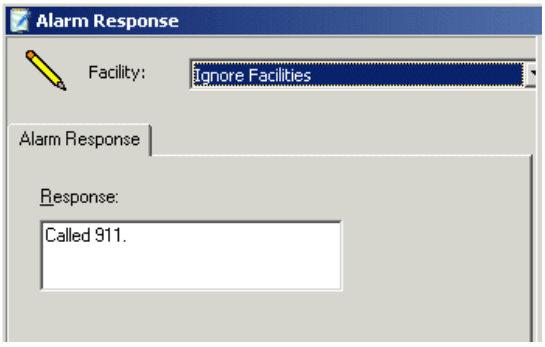
Table 83. Form fields

Element	Description
Facility	A facility option can be assigned from the drop-down list of available facilities. The default of Ignore Facilities is assigned if no other selection is made.

Alarm Response tab

Use this tab to enter a predefined alarm response. This multi-line dialog box accepts 64 alphanumeric characters. The responses you create and save display as selections on the Alarm Monitor form.

Figure 60. Alarm Response tab



How to

1. Complete the field on this tab.

   Examples:

   ```
   Police are on their way.
   Maintenance is cleaning up.
   ```

2. Click **Save** between each entry and before you exit this tab.

Define alarms

The Alarm form, Alarms & Events group, is used to modify an alarm record. An alarm is a notification that something has happened within this application. An alarm occurs when a defined device, such as a digital input changes to a state defined as the alarm state. For example, if a digital input alarm state is defined as Open in the Active State, then an alarm occurs when the state changes to Open. Alarms can also be used for noncontroller related events such as CCTV alarms. Most alarms are tied to digital output points associated with devices such as switches and motion detectors.

Note: Not all alarms are present at the same time, and are determined by the modules installed in the controller.

When you set up your controller, some alarms are automatically set up for you. However, alarms for digital inputs must be set up manually using the Digital Input form.

Use the Alarm form to modify an alarm record. With the exception of external alarms, you cannot delete alarm records. Alarms are managed by the owner of the alarm record. The alarm owner can be an API, module, CCTV Interface, digital input, camera, DVMR, controller, or reader. For an alarm to display on the Alarm Monitor form, you can either select the Monitor field on the Alarm form or schedule the alarm to be monitored. When set to be monitored, the alarm displays and changes to an alarm condition.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button. If you are using this shortcut menu to get to the Time Schedules form or Events form, all schedule or event records display.

Note: Alarms, events, and functions associated with a *SCIF* workstation cannot be configured, monitored or controlled unless you are at the SCIF workstation.

Table 84. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. When the records are created, the default description is in the format: **mmmm-b-pp** where **mmmm** represents the controller number to which this alarm is associated, b represents the module number, and **pp** represents the point or device number. **Example**: **0001-1-01 Tamper** This tamper alarm is on controller 1, module 1, alarm 1. To change this description, select and enter text over the existing text and save the record. It is recommended that you keep the mmmm-b-pp prefix in each alarm displayed to aid in locating the alarm points on the physical hardware. **Example Failover Alarm**: **BCTTOKYO Failover Alarm** A failover alarm is created when backup clients are assigned to the default client computer. The alarm record displays the default client computer name as part of the description. This failover alarm indicates the default client as BCTTOKYO. If the description indicates Region Failover Alarm, the name of the Regional Database Server is included in the description. Alarm descriptions coming into this application from an API can be ambiguous, and the source of the alarm point may be unclear. It is recommended that you rename API alarm points to correspond to the actual physical point, to assist in processing and acknowledging when an alarm displays on the Alarm Monitor.
Facility	A facility option can be assigned for the Area from the drop-down list of available facilities for assignment by this operator. The default of Ignore Facilities is assigned if no other selection is made.

Alarm tab

This tab configures the behavior of the alarm.

Figure 61. Alarm tab

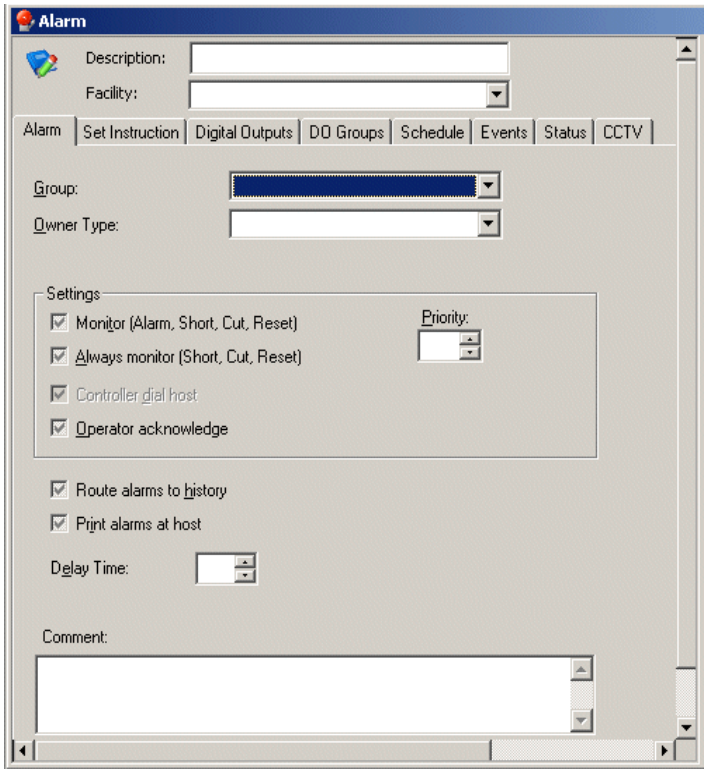


Table 85. Form fields

Element	Description
Group	Displays the alarm group to which this alarm was assigned. The default is alarm group 0. You can change to any other alarm group available on that controller, displayed on the drop-down list.

Table 85. Form fields (continued)

Element	Description
Owner Type	This is a read-only field and displays the object to which the alarm belongs or refers. • **API**: Alarm is bi-directional and owned by the external interface. • **CCTV Interface**: Alarm is owned by an interface. • **Client**: Alarm is owned by a Regional Database client.· • **Controller**: Alarm is owned by a controller.· • **Digital Input**: Alarm is owned by the digital input, such as a motion sensor. (The 11th DI on a Micro/PX-2000 or M/PXN-2000 is owned by the controller; it is a low-battery alarm from the controller.)· • **Failover**: Alarm is owned by the host client. • **Guard Tou**r: Alarm is owned by a reader or digital input. • **Camera**: Alarm is owned by a camera. • **Kalatel DVMR**: Alarm is owned by a Kalatel DVR. • **Reader**: Alarm is owned by a reader. • **Region Failover**: Alarm is owned by the host Regional Database Server. • **Module**: Alarm is owned by an individual module.
Settings	**Note:** If this alarm is associated with a *SCIF* workstation, this control is not available for selection unless you are at the workstation that is hosting the ACU controller associated with this alarm. **Monitor (Alarm, Short, Cut, Reset)**: If selected, this alarm, when triggered, displays all alarm conditions available to this alarm on the Alarm Monitor form. You have the option to schedule alarm monitoring on the Schedule Tab of this form. If this option is NOT selected but a schedule is in place, the schedule monitors alarms only for the time that monitoring is on. (Although the option to monitor is displayed for the 11th DI on a Micro/PX-2000 (low-battery alarm), an alarm is not generated for Cut and Short.) • An operator can see alarms on the Alarm Monitor form only for facilities that are currently active and assigned to the current operator. • The option to monitor an alarm must be selected on the Alarm form in order for a specific alarm to display on the Alarm Monitor form. • Alarms do not display on the Alarm Monitor form if the selection to monitor an alarm is removed, even though Alarm Routing and Bumping may be configured. **Always monitor (Short, Cut, Reset)**: If selected, this alarm always displays Cut, Short, and Reset conditions of alarms on the Alarm Monitor form. Select this option if a schedule prevents monitoring an alarm/reset condition during certain periods of the day but you still want Short, Cut, and Reset to be monitored and displayed. (Although the option to monitor is displayed for the 11th DI on a Micro/PX-2000 (low-battery alarm), an alarm is not generated for Cut and Short.) **Controller dial host**: If selected, an alarm occurring on a dial-up controller, or controllers downstream from a dial-up controller, causes the controller to dial the host in order to report the alarm. **Operator acknowledge:** If selected, the operator must acknowledge the alarm on the Alarm Monitor form before the alarm can be cleared. **Priority**: This number indicates the priority of this alarm and how it displays on the Alarm Monitor form. This priority tells the system (host) in which order it should alert the operator if multiple alarms occur at the same time. The lower the number, the higher the priority. The priority range is 0 through 19. **Example**: A Duress alarm is assigned priority 2. An Intrusion alarm is assigned priority 3. Multiple Intrusion alarms were being reported when a Duress alarm occurs. The Duress alarm displays above the Intrusion alarms on the Alarm Monitor form.

Table 85. Form fields (continued)

Element	Description
Route alarms to history	If selected, alarm activity is written to the alarm history.
Print alarms at host	If selected, the alarm history transaction is printed on a selected system printer when the alarm changes state between alarm and reset. Alarm transactions print only if the transaction is routed to the printer and the alarm transaction printer is selected. The selection of the alarm transaction printer is done on the Client tab of the Client form.
Delay Time	***(This feature is enabled for systems using ACU controllers)*** From the drop-down list, select the number of seconds during which an alarm can be delayed without generating an alarm. This is an Arm Delay requirement.
Comment	Use this field to enter any special consideration or reminder for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

How to

1. Review the guidelines in *Table 85* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Set Instructions tab

Use this tab to select the instructions you want to display on the Alarm Monitor form when this alarm occurs. Instructions are simply directions explaining how to react to the alarm.

Figure 62. Set Instructions tab

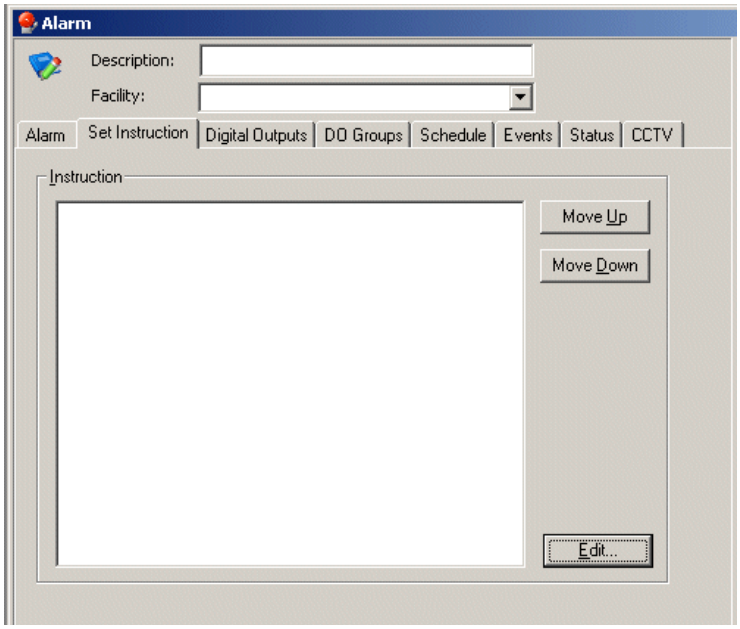


Table 86. Form fields

Element	Description
Instruction	This windowpane displays the currently selected instructions in the order in which they display on the Alarm Monitor Form.
Move Up	Click to move a selected instruction up one line; it displays on the Alarm Monitor form in the modified order.
Move Down	Click to move a selected instruction down one line; it displays on the Alarm Monitor form in the modified order.
Edit	Click to display the alarm Instruction Assignment dialog box that allows you to assign predefined alarm instructions to this alarm. The Instructions Assignment window allows you to modify the list of instructions assigned to this transaction. Only instructions in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available instruction. • Select, and then click the left arrow to unassign an instruction. Click **OK** to display results in the Instruction windowpane.

How to

1. Review the guidelines in *Table 86* and complete this tab.
2. Click **Save** before you exit this tab.

Digital Outputs tab

Use this tab to link digital outputs to an alarm. When this alarm is triggered, the linked digital output is also triggered.

Figure 63. Digital Outputs tab (ACU system)

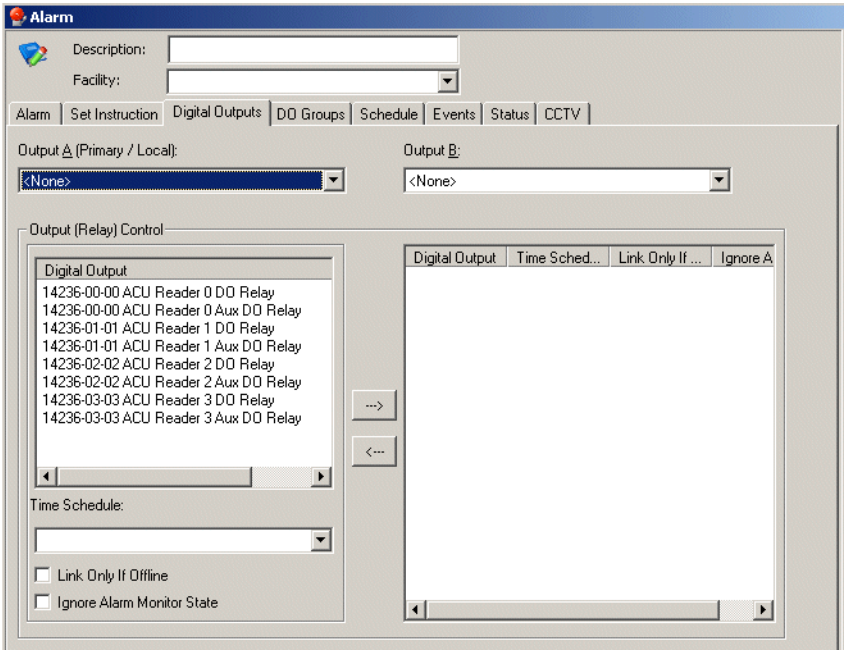


Table 87. Form fields

Element	Description
This section is enabled for digital outputs that are controlled by Micro controllers.	
Output A (Primary/Local)	**Available Outputs (Relays) Windowpane**: Select from the Available list those outputs that you want to assign to this alarm record. The outputs that display in this list are those that were previously configured and not currently assigned. Only outputs in the operator's facilities are available for assignment.
Output B	**Selected Outputs (Relays) Windowpane**: The outputs that display are those that are currently assigned to this alarm record. Select, then click the left arrow to unassign an available output.

Table 87. Form fields (continued)

Element	Description
Note: This section is enabled for digital outputs that are controlled by ACU controllers:	
Output (Relay) Control	**Available Outputs (Relays) Windowpane**: Select from the Available list those outputs that you want to assign to this alarm record. The outputs that display in this list are those that were previously configured and not currently assigned. Only outputs in the operator's facilities are available for assignment by this operator. **Note:** You must assign a Time Schedule in order to move this Output (Relay) to the Selected windowpane.Select, then click the right arrow to assign an available output. **Selected Outputs (Relays) Windowpane**: The outputs that display are those that are currently assigned to this alarm record. Select, then click the left arrow to unassign an available output.
Time Schedule	Select a time schedule from the drop-down list. • If no time schedule is to be assigned, you must select **None** before you can move a selected output (relay) from the available windowpane to the assigned windowpane. • If there are none listed, create a time schedule on the Time Schedule form.·
Link Only If Offline	The default of this check box is not selected and this link functions during the time schedule regardless of the status of the alarm. If selected, the link between the alarm and output (relay) functions only when the controller is offline. This output (relay) does not function during the selected time schedule. Use this when multiple relays are to be linked to a single alarm.
Ignore Alarm Monitor State	If selected, the output (relay) triggers even when the alarm that has the digital output is not monitored.

How to

1. Review the guidelines in *Table 87* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

DO Groups tab

Use this tab to link digital output groups to an alarm. When this alarm is triggered, the linked digital output groups are also triggered. The digital outputs remain active until the alarm is reset, regardless of any specified on-time setting for the DOs, unless it is the primary/local group (not applicable for systems using ACU controllers).

- If it is the primary/local group, the DOs follow their specified ON-time setting.
- If there is a reader in the primary/local group, the reader follows the alarm state.
- If the DOs in the primary/local group are set to 0 for the ON time, that forces the DO to follow the state of the alarm or input.

Note: Be aware that Invalid Credential alarms and Lost Credential alarms do not reset. If you assign a DO Group to either of these alarms, the alarm goes inactive or turns off when acknowledging or purging.

Figure 64. DO Groups tab

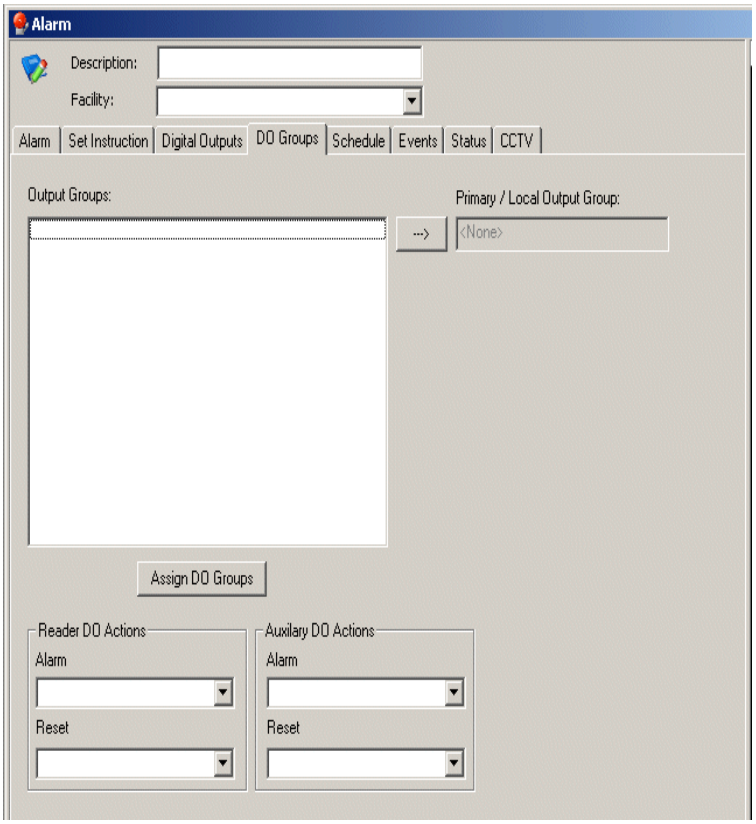


Table 88. Form fields

Element	Description
The following features are applicable to only Micro controllers:	
Output Groups	This windowpane displays assigned digital output groups. The digital output groups can be on a local or other controller.
Assign DO Groups	Click to display a Digital Output Group Assignment dialog box, allowing you to select and assign alarm DO groups that you want associated with this alarm record.
Primary/Local Out Group	The first local output group in the list of assigned output groups automatically displays as the primary. You can select another output group as primary from the output groups displayed in the windowpane. If the selection is not on a local controller, the assignment arrow button is dimmed and unavailable for assignment as a primary output group. If the controller is offline or unable to communicate with the host at the time of an alarm, only the Primary/Local DO group is triggered.

Table 88. Form fields

Element	Description
This section applies to Micro and ACU controllers: When an alarm is active or DO event occurs, select the action to be performed on all DOs within all selected DO groups. This action applies to both logical and physical alarms:	
Reader DO Actions	**On Alarm/On Reset**: • Normal: The door locks and valid credentials unlock the door. Schedules can override this state. • Lock (no access): The door locks and does not allow access. Controllers put the readers in an offline state. Schedules can override the state and put the controller back online. • Indefinite Unlock: The door is put into an unlock state. Schedules can override the current state.
Auxiliary DO Actions	**On Alarm/On Reset**: • On Indefinite: The DO is put into active state indefinitely. Schedules cannot override this state on a controller. • Off: The DO is put into the de-active state indefinitely. Schedules cannot override this state on a controller. • On for Duration: The DO is put into the active state for the duration defined. Schedules cannot override this state on a controller.

How to

1. Review the guidelines in *Table 88* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Schedule tab

Note: These options are selectable for systems using Micro controllers.
These options are available for nonlogical alarms associated with ACU controllers.

Use this tab to assign schedules for monitoring and printing alarms. Time schedules define intervals that include a start AND an end time for different days of the week and modes. At the start of the schedule, the alarm monitoring or printing changes to the scheduled value. At the end of the schedule, the alarm monitoring or printing returns to the nonscheduled value.

Figure 65. Schedule tab

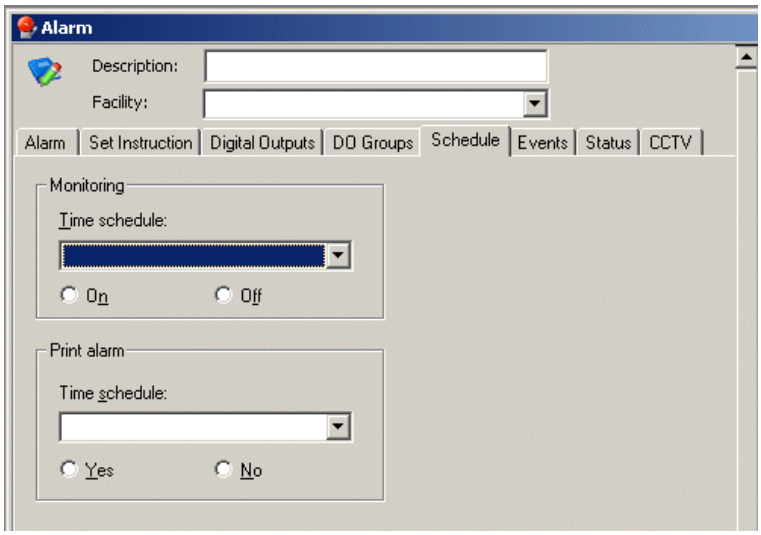


Table 89. Form fields

Element	Description
Monitoring	**Time schedule**: Click the drop-down list to select a time schedule. **On/Off**: Select On if the above schedule is when you want to monitor alarms or Off if the above schedule is when you do not want to monitor alarms.
Print Alarm	**Time schedule**: Click the drop-down list to select a time schedule. **Yes/No**: Select Yes if the above schedule is when you want to print alarms or No if the above schedule is when you do not want to print alarms.

How to

1. Review the guidelines in *Table 89* and complete the fields on this tab.

   Example: If alarm monitoring is scheduled On, it returns to Off (no monitoring) at the end of the assigned schedule.

2. Click **Save** before you exit this tab.

Events tab

Use this tab to assign events for alarm groups and alarm sense times. Events define start time(s) and day(s) only. There is no end associated with an event. Therefore, that event stays in effect until another event changes it or you change it manually.

Figure 66. Events tab

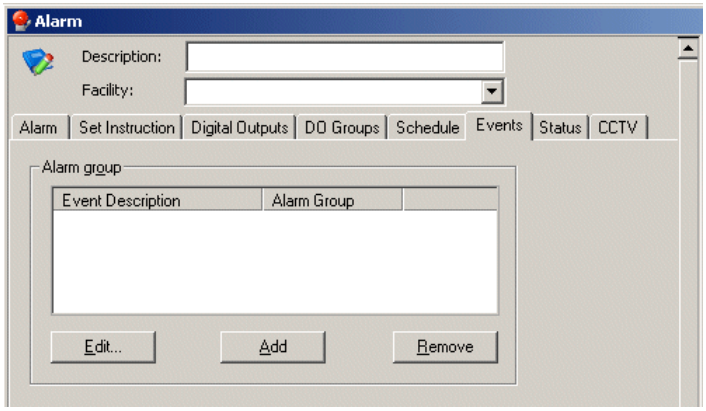


Table 90. Form fields

Element	Description
Alarm group	This windowpane displays assigned events and their associated alarm groups.
Edit	This button is available only if you currently have a list of assigned events and alarm groups. An Edit Alarm Group dialog box displays and allows you to modify the selection of events and associated alarm groups.
Add	Click **Add** to assign events to the specified alarm group. An Edit Alarm Group dialog box displays enabling you to build a list of events and associated alarm groups.
Remove	Select an entry in the list of displayed events, then click Remove to remove from the list.

How to

1. Review the guidelines in *Table 90* and complete this tab.
2. Click **Save** before you exit this tab.

Status tab

Select this tab to view information about the selected alarm as currently stored in the controller's database. This status reflects any changes made by schedules on this alarm. This is a read-only windowpane, in two-column format, as follows:

Figure 67. Status tab

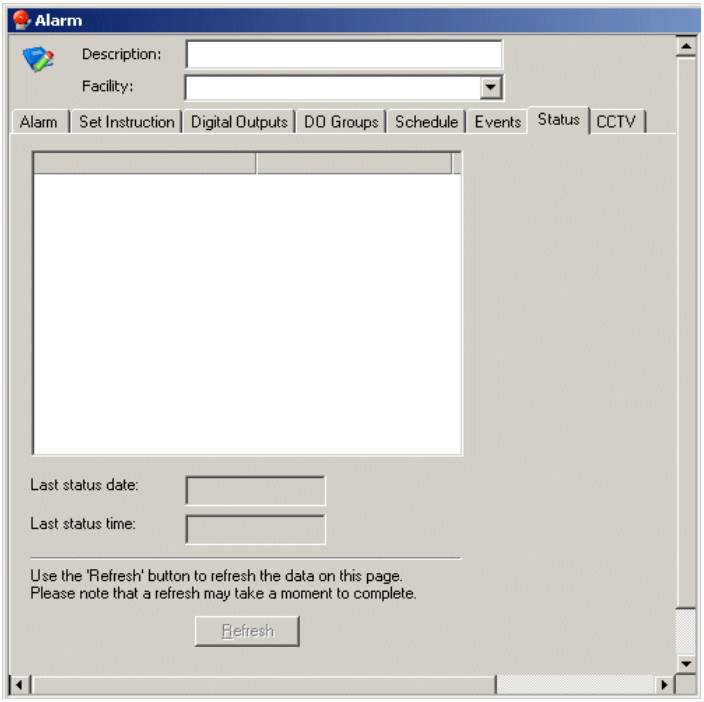


Table 91. Form fields

Element	Description
	Micro controller status: **Alarm Group**: Displays the alarm group to which the alarm is assigned. **Alarm Monitor**: Displays whether this alarm is routed to the Alarm Monitor form. ***ACU controller status:*** **Reset**: Displays either Closed or Open. **Alarm**: Displays Closed or Open. **Tamper**: Displays Cut or Short.
Last status date	Displays the date when the status was last requested.
Last status time	Displays the time when the status was last requested.
Refresh	Click to receive the current status information for this alarm from the controller. It may take a moment to complete the refresh of the data. A refresh for a dial-up controller causes the host to dial the controller unless they are already connected. The refresh process may take a few minutes. **Note:** A status refresh requested for a controller that is offline or in error is never returned.

How to

1. Review the guidelines in *Table 91*.
2. Request the latest information by clicking **Refresh**. It may take a moment to process refreshing the data.

CCTV tab

Select this tab to assign CCTV alarms to alarms for this application. The windowpane displays the CCTV alarms already assigned to this alarm.

Figure 68. CCTV tab

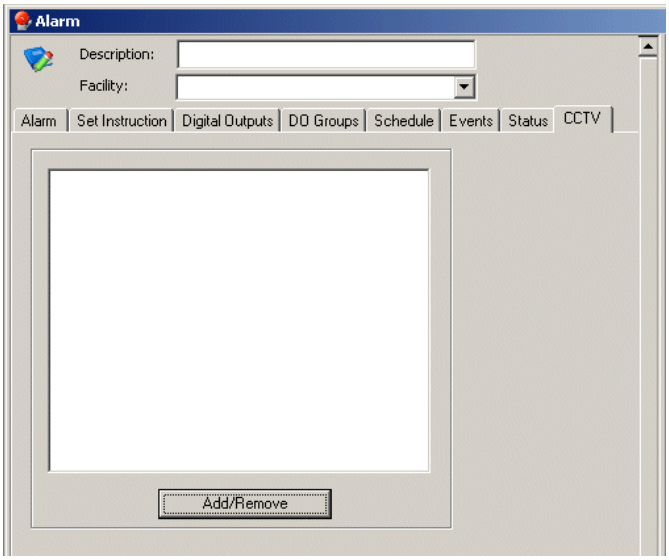


Table 92. Form fields

Element	Description
Add/Remove	Click to display the CCTV Alarm Assignment dialog box that allows you to add or remove items from the list. This dialog box allows you to select and assign CCTV alarms to alarms for this application. Only CCTV alarms in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available alarm. • Select, and then click the left arrow to unassign an alarm.

How to

1. Review the guidelines in *Table 92* and complete the assignment on this tab.
2. Refer to the *Facility Commander Wnx Installation Manual*, *CCTV Interfaces* appendix for additional information about CCTV interfaces.
3. Click **Save** before you exit this tab.

Adding sound to an alarm

If you would like to hear a sound from this application computer when an alarm occurs, follow the steps below:

Note: You MUST have a sound card in your computer!

1. Click **Start**, **Settings**, then **Control Panel**.
2. From the Control Panel window, double-click the **Sounds and Multimedia** icon.
3. In **Sound Events**, scroll to this application.
4. Select the alarm to which you want to assign sound; then select the sound you want for that alarm.
5. Click **OK** to save the change and exit the window or **Apply** to save that change and add more sounds.
6. Start this application; select **Administration**, then **Preference**.
7. On the Settings tab of the Preference form, verify that the Console alarm sound field is set for the results you anticipate (either **Continuous** or **Short**).

Define alarm groups

Use the Alarm Group form, Alarms & Events group, to assign events or schedules to alarm groups. Alarm groups provide two things: 1) a convenient way of scheduling many alarms at once, and 2) a means of disabling monitoring in many alarms from a keypad reader. Refer to *Keypad alarm shunting on page 118* for additional information. When a controller record is created, 16 alarm groups are also created. You cannot delete an alarm group record. Alarm groups are owned by the associated controller record.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button. If you are using this shortcut menu to get to the Schedules form or Events form, all schedule or event records display.

Table 93. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. The description of the alarm group should be unique. When the records are created, the default description includes the controller to which this alarm group is associated and the number of the alarm group, for example **`0001 Group 1`**, which represents alarm group one on controller one. All alarms are automatically assigned alarm group 0. To change this description, enter over the existing text and save the record. It is recommended that you keep the alarm group number and controller number prefix to aid in locating the alarm points on the physical hardware.
Facility	A facility option can be assigned for the alarm group from the drop-down list of available facilities. **Note:** Be very careful when assigning the facility of an alarm group to a different facility than the controller. You can create an undesired result if you do not fully understand facility assignment. The default of Ignore Facilities is assigned if no other selection is made.

Group tab

Use this tab to schedule when the alarms in the group are monitored or when to print alarm transactions by assigning previously defined time schedules to alarm groups.

Figure 69. Group tab

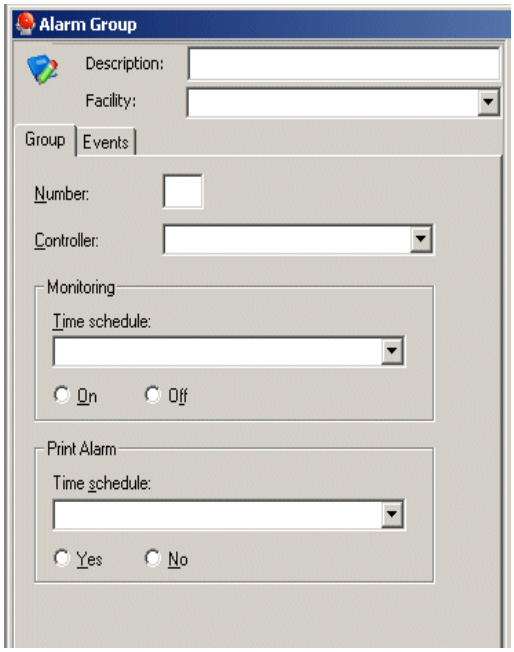


Table 94. Form fields

Element	Description
Number	This is a read-only field. Displays the number of the alarm group.
Controller	This is a read-only field. Displays the description of the controller on which this alarm group is located.
Monitoring	**Time schedule**: Select a time schedule from the drop-down list. **On/Off**: Select On if the above schedule is when you want to monitor the alarm group or Off if the above schedule is when you do not want to monitor alarms belonging to this alarm group.
Print Alarm	**Time schedule**: Select a time schedule from the drop-down list. **Yes/No**: Select Yes if the above schedule is when you want to print alarms belonging to this alarm group or No if the above schedule is when you do not want to print alarms belonging to this alarm group.

How to

1. Review the guidelines in *Table 94* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Events tab

Use this tab to schedule changes to the sense time on all alarms in the group by assigning previously defined events to alarm groups.

Figure 70. Events tab

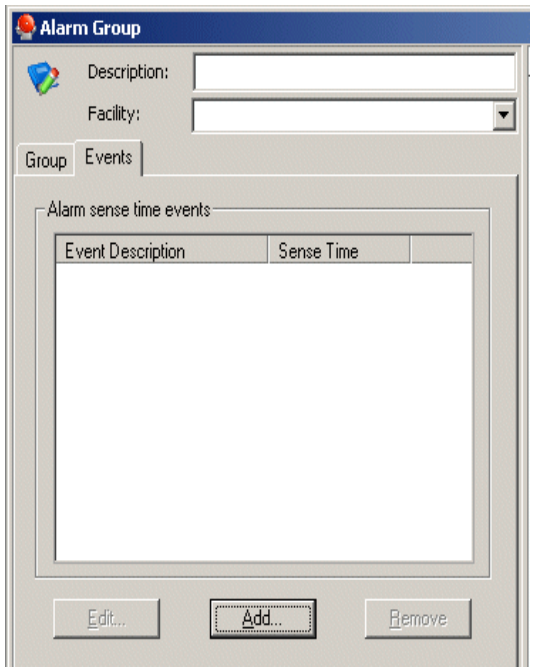


Table 95. Form fields

Element	Description
Alarm sense time events	This windowpane displays the currently assigned events and their associated sense time. **Edit**: Available only if there are currently assigned alarm sense time events. This button is used to modify existing alarm sense time events. The *Alarm sense time form on page 170* form displays. **Add**: Click **Add** to assign events to the specified sense time. The *Alarm sense time form on page 170* form displays. **Remove**: Select an alarm sense time event to remove and click **Remove**.

How to

1. Review the guidelines in *Table 95* and complete the assignment on this tab.
2. Click **Save** before you exit this tab.

Alarm sense time form

This form allows you to add or edit the link between an event and an alarm sense time. The event determines when and to what value the sense times for all alarms in the group are changed.

Figure 71. Alarm Sense Time

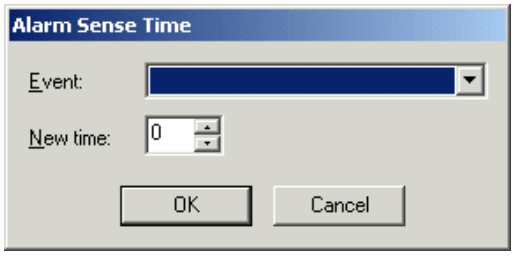


Table 96. Form fields

Element	Description
Event	Select an event from the drop-down list. If there are no events listed, you need to configure events using the Event Schedule form.
New time	Select or enter a sense time. The value is in seconds and indicates the delay before triggering an associated digital output or sending in as alarm for this application if the DI type is Alarm. This number tells the system how many seconds to wait after sensing the input has changed to Active State. Enter 00 to immediately send the transaction to the host, notifying the host of a state change. Increase the Sense Time entry if using noisy or chattering contacts.

How to

1. Review the guidelines in *Table 96* and complete this tab.

   Example: This value could indicate the delay time, in seconds, that elapses between the time a door contact is broken and the time the output and alarms are triggered. If door contact is re-established before the sense time elapses, the alarm would not come in to this application and the output would not activate.

2. Click **Save** before you exit this tab.

Define alarm priority

This form, in the Alarms & Events group, allows you to assign color priority attributes to an alarm state and bumped alarm. The colors you assign display on the Alarm Monitor form when an alarm is generated. The default color for alarms to display on the Alarm Monitor form is a white background with black font.

Figure 72. Alarm Priority form

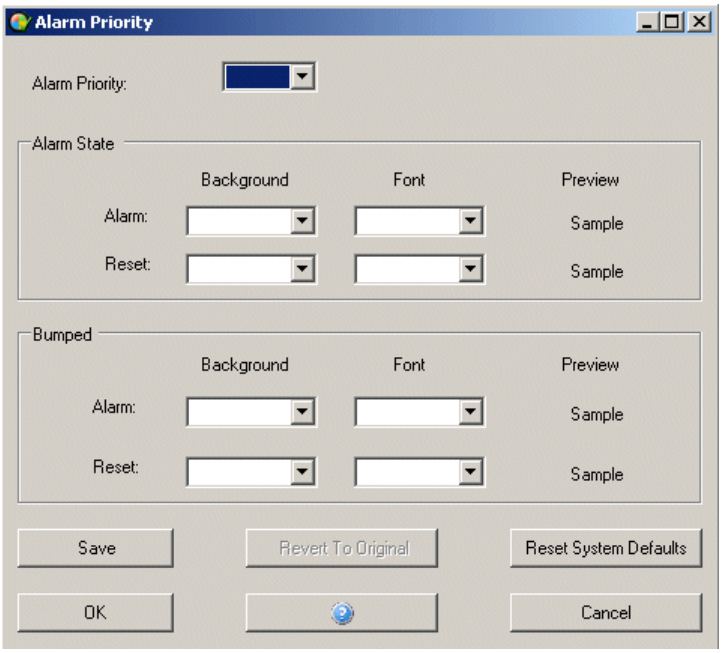


Table 97. Form fields

Element	Description
Alarm Priority	Select the alarm priority from the drop-down list for which you are assigning a color palette. The priority range is 0 to 19.
Each alarm category allows you to assign a Background color and Font color. Click the drop-down list to display a palette of available colors. Select a color and click **OK**. For your convenience, a Preview box displays a sample of the assigned colors so you can preview your selections.	
Alarm State	**Alarm**: This alarm point is in an active state. Select a background and font color from the drop-down lists to represent the state of an alarm for the selected priority. A preview of your color choices displays in the Preview block. The following alarm states display in the selected color: Alarm Cut Short
	Reset: This alarm point has reset and is no longer in the active alarm state. Select a background and font color from the drop-down lists to represent the Reset state of an alarm for the selected priority. A preview of your color choices displays in the Preview block. Any alarm in Reset state displays in this color.

Table 97. Form fields (continued)

Element	Description
Bumped	**Alarm**: The notification for this alarm point has been bumped to an additional location. Select a background and font color from the drop-down lists to represent the Bumped state of an alarm for the selected priority. A preview of your color choices displays in the Preview block. The following bumped alarm states display in the selected color: Alarm Cut Short
	Reset: The notification for this alarm point has been bumped to an additional location, has reset, and is no longer in the active alarm state. Select a background and font color from the drop-down lists to represent the Bumped - Reset state of an alarm for the selected priority. A preview of your color choices displays in the Preview block.
Save	Click to update an adjusted priority configuration.
Revert to Original	If you changed a setting during this session and have not yet saved, click to retain the colors previously assigned. No changes are applied.
Reset System Defaults	If you presently have colors assigned to alarms displaying on the Alarm Monitor form, click to reset the colors to the system defaults of a white background with black font. That is, all alarms default to a white background with black font and not just the alarm that is currently displaying in the Alarm Priority form.
OK	Click to close this form. If you have changed anything on this form, a message displays, asking you if you want to save your changes. Click Yes to save. The newly assigned colors display on the Alarm Monitor form in real time if there are existing alarms.
Help	Click to open the Online Help system.
Cancel	Click to close this form without making any changes. If you have changed anything on this form, a message displays, asking you if you want to save your changes.

How to

1. Review the guidelines in *Table 97* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

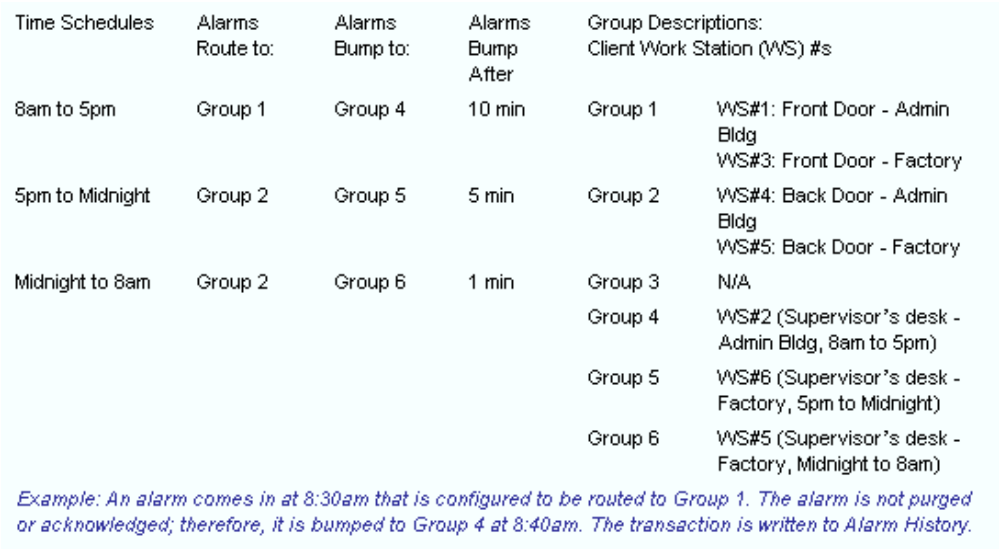
Configure alarm routing and bumping

This form, in the Alarms & Events group, allows you to configure the routing of alarms to one or more Client Groups by time schedule or at all times. Bumping is a term used to describe forwarding the alarms to an additional location.

- You must have Client Groups configured beforehand.
- You can bump an alarm to one or more Client Groups following a time lapse of an unacknowledged and unpurged alarm to the Client Groups selected for routing.
- Alarm bumping information is displayed on the Alarm Monitor form in the alarm state column.

Note: You may want to review this Sample Scenario before you begin. This is a routing and bumping schedule for a business in two buildings (administration building and a factory, working three shifts).

Figure 73. Routing and bumping scenario



Time Schedules	Alarms Route to:	Alarms Bump to:	Alarms Bump After	Group Descriptions: Client Work Station (WS) #s	
8am to 5pm	Group 1	Group 4	10 min	Group 1	WS#1: Front Door - Admin Bldg WS#3: Front Door - Factory
5pm to Midnight	Group 2	Group 5	5 min	Group 2	WS#4: Back Door - Admin Bldg WS#5: Back Door - Factory
Midnight to 8am	Group 2	Group 6	1 min	Group 3	N/A
				Group 4	WS#2 (Supervisor's desk - Admin Bldg, 8am to 5pm)
				Group 5	WS#6 (Supervisor's desk - Factory, 5pm to Midnight)
				Group 6	WS#5 (Supervisor's desk - Factory, Midnight to 8am)

Example: An alarm comes in at 8:30am that is configured to be routed to Group 1. The alarm is not purged or acknowledged; therefore, it is bumped to Group 4 at 8:40am. The transaction is written to Alarm History.

Table 98. Form fields

Element	Description
Description	Click to assign a unique title to this record. This is a required field and accepts 64 characters.
Facility	A facility option can be assigned for the Area from the drop-down list of available facilities for assignment by this operator. The default of Ignore Facilities is assigned if no other selection is made.

Definition tab

This tab allows you to configure the routing of alarms to selected Client Groups according to a schedule or at all times. Additionally, you can select Client Groups and set a time to bump the alarm to an additional location.

- You can configure both Routing and Bumping, only a Routing record, or only a Bumping record.
- Client Groups can be part of any Region in a Global configuration.

Figure 74. Definition tab

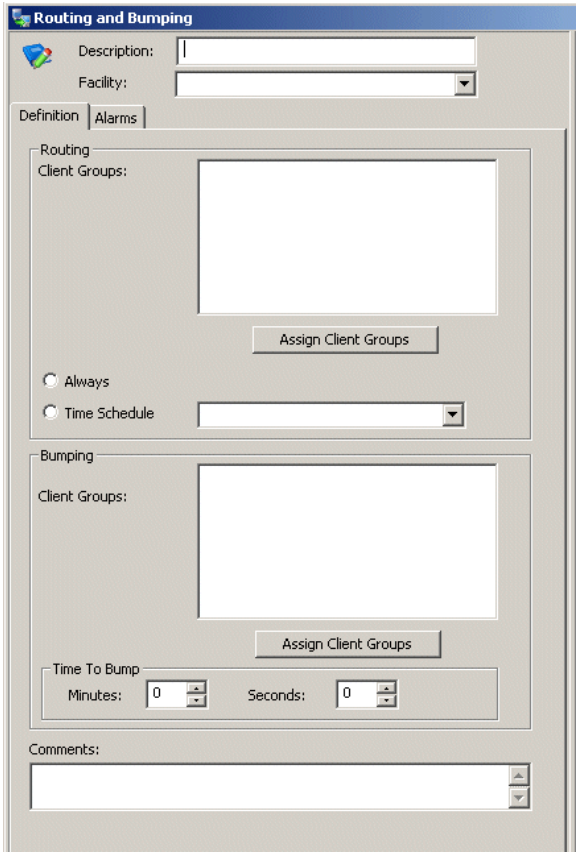


Table 99. Form fields

Element	Description
ROUTING	
Client Groups	This windowpane displays the names of Client Groups assigned to this Routing record.
Assign Client Groups	Click to display an Alarm Routing Client Group Assignment dialog box that allows you to assign Client Groups to this Routing record. Only Client Groups in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available Client Group. • Select, and then click the left arrow to unassign a Client Group. Click **OK** to close this dialog box and display the results in the Routing, Client Groups windowpane.
Select one of the following options:	
Always	Select this option if you always want this Client Group to receive alarms.
Time Schedule	Select this option to enable the Time Schedule drop-down list and then select a Time Schedule from the list.

Table 99. Form fields (continued)

Element	Description
BUMPING	
Client Groups	This windowpane displays the names of Client Groups assigned to this Bumping record. Typically, the Client Groups displayed here are different than those assigned to Routing.
Assign Client Groups	Click to display an Alarm Bumping Client Group Assignment dialog box that allows you to assign Client Groups to the Bumping record. Only Client Groups in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available Client Group. • Select, and then click the left arrow to unassign a Client Group. Click **OK** to close this dialog box and display the results in the Routing, Client Groups windowpane.
Time To Bump	Select the number of minutes to wait before bumping this alarm notification to an additional location, if the alarm is not acknowledged or purged at the Routing work station. The Alarm Monitor form indicates that this alarm is bumped. The minimum setting is one minute. The default and maximum is 30 minutes. Select the number of seconds to wait before bumping this alarm notification to an additional location. The default is zero.
Comment	Use this field to enter any special consideration or reminder for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

How to

1. Review *Figure 73 on page 173* and the guidelines in *Table 99* to complete the fields on this tab.
2. Click **Save** before you exit this tab.

Alarms tab

Figure 75. Alarms tab

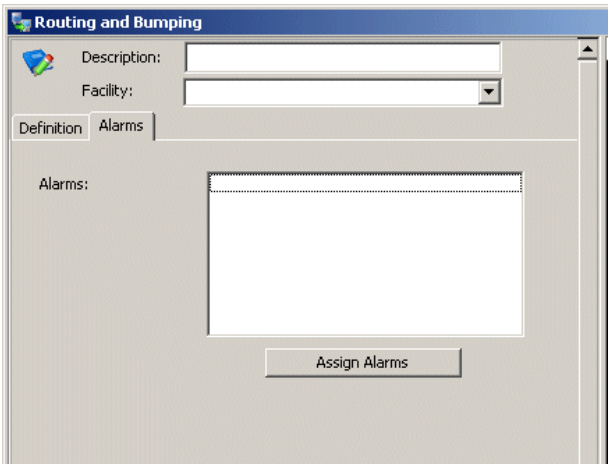


Table 100. Form fields

Element	Description
Alarms	This windowpane displays the names of alarms assigned to this Routing and Bumping record.
Assign Alarms	Click to display an Alarm Assignment dialog box that allows you to assign alarms for this application to this Routing and Bumping record.

How to

1. Review *Table 100* to complete this tab.
2. Click **Save** before you exit this tab.

API connections

This form, in the Gateways & Interfaces group, allows you to define an interface license for external application integration, by assigning a description of the API (Application Program Interface) service that has been configured to communicate with FCWnx. This option is purchased individually and licensed with your FCWnx system. For complete details, contact your GE Security Sales Representative.

The number of API records that you can configure is limited to the number of API connections for which you are licensed.

Once configured, real-time event processing and remote command and control functionality extended by way of the API includes the following:

- Bi-directional alarm event processing for monitoring and acknowledgement
- Receiving FCWnx access control credential events
- Receiving digital input events
- Receiving intrusion zone events
- Control of alarm point monitoring On/Off
- Control of digital input points Enable/Disable
- Control of digital output points Open/Close
- Control of intrusion zones Arm/Disarm

Alarms, events, and functions associated with a *SCIF* workstation do not display and cannot be configured, monitored or controlled through an API connection unless you are at the SCIF workstation.

An API can be installed on any computer in your FCWnx system; however, do not attempt to install on a domain controller. The installation does not complete properly. Review the system configuration with your IT Department for alternative reconfiguration options.

Description: This field is required and accepts up to 64 characters. Enter the title of the external API. This should be a unique identifier to the product.

Definition tab

Enter information that defines an interface license for external application integration to this application.

Figure 76. API Connections

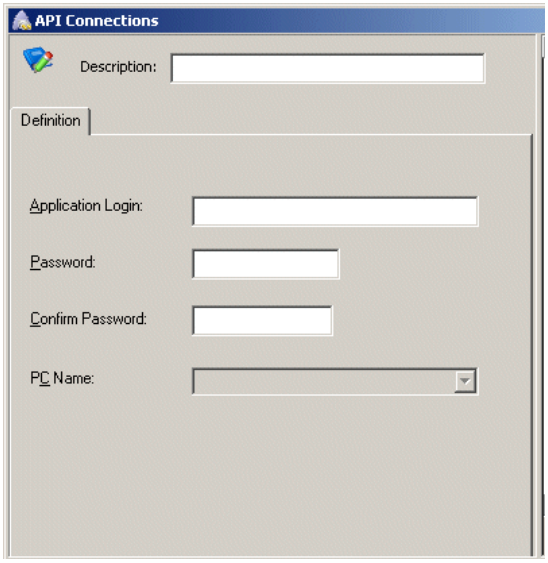


Table 101. Form fields

Element	Description
Application Login	Enter the login used by the external application to connect and access the API. Each login must be unique.
Password	We recommend a noncryptic password. The password must be greater than four alphanumeric or wildcard characters, with no spaces. The password is NOT case sensitive.
Confirm Password	Enter the password a second time.
PC Name	From the drop-down list, select the computer for this application that hosts the external application.

How to

1. Review the guidelines in *Table 101* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Define floors

Use this form, in the Elevators group, to associate a description to a floor number.

Facility: A facility can be designated for the new Floor record from the Facility drop-down list.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Floor tab

Use this tab to create a description for a floor.

Figure 77. Floor tab

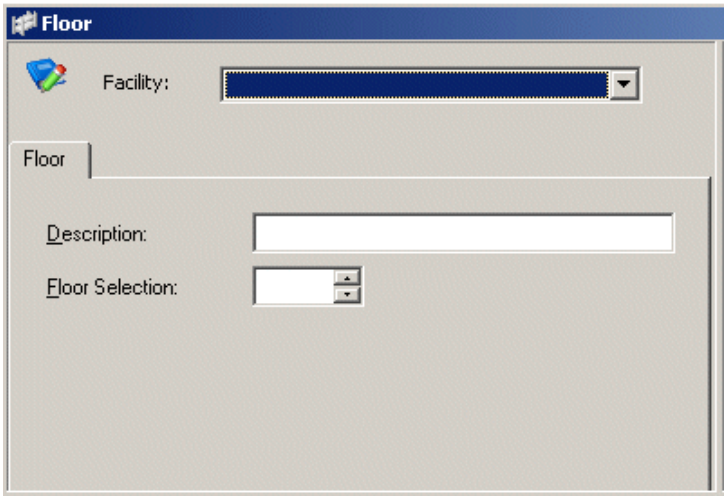


Table 102. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. Enter a description for the floor.
Floor Selection	Click the drop-down list of numbers to select a floor number or enter the floor number using your keyboard. Duplicate numbers are acceptable. ***Micro controller***: The drop-down list for assigning a floor to a description accepts two-character floor numbers and a maximum of 64 floors. ***ACU Controller***: If your system is licensed and configured with an ACU controller, the drop-down list for assigning a floor to a description accepts three-character floor numbers and a maximum of 128 floors.

How to

1. Review the guidelines in *Table 102* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Define elevators

Use this form, in the Elevators group, to define elevators. Decide which method of elevator control you want to use.

Methods of elevator control

Note: Do not switch between floor tracking and no floor tracking in the same elevator record. If you want to change an existing record, delete that record and create a new one with the desired floor tracking method.

No floor tracking method

With this method, you define the floors available and define a digital output (relay) for each floor. Only digital outputs provided by the DO module can be used. In addition, each DO can by used in only one elevator and mapped to only one floor. The number of floors is limited by the number of DO modules that can be placed in the controller. The maximum number of modules in a controller is four.

Micro controllers: The maximum number of floors available is 64 (maximum of 4 modules x 16 DOs = 64 DOs).

ACU controllers: The maximum number of floors available is 128 (12 on the ACU2 controller, 7 RRMs x 16 relays, and 1 RRM x 4 relays)

Floor tracking by input

Define the floors available, then define a digital input and digital output (relay) for each floor. The digital inputs are used for floor selection. Only digital inputs provided by the DI module can be used for floor selection and each digital input can be used for only one elevator and mapped to only one floor. The digital outputs are used to control where the elevator moves. Only digital outputs provided by the DO module can be used, and each digital output can only be used in one elevator and mapped to one floor. Using this method:

Micro controllers: The maximum number of floors is 32 (2 modules x 16 DOs = 32 DOs).

ACU controllers: The maximum number of floors is 64.

Floor tracking by keypad

Define the floors available and define a digital output (relays) for each floor. The reader's keypad is used to select the desired floor. Only digital outputs provided by the DO module can be used. In addition, each DO can be used in only one floor. The number of floors is limited by the number of DO modules that can be placed in the controller. The maximum number of modules in a controller is four.

Micro controllers: The maximum number of floors available is 64 (4 modules x 16 DOs = 64 DOs).

ACU controllers: The maximum number of floors available is 128 (12 on the ACU2 controller, 7 RRMs x 16 relays, and 1 RRM x 4 relays).

Floor tab of access right form (for systems using Micro controllers)

On the Personnel menu, select Access Right to open the Access Right form, Floor tab to assign access rights to elevators and floors. Select from the Available list those elevators you want to use with the form. The elevators that display in this list are those that are set up on the Elevator form. Floors and DOs can be assigned an access right to define which floors a person can access and what DOs a person can trigger with a valid credential.

Configuring elevator control using a Micro controller:

1. Create Floor records and floor numbers to be used with the elevators. (See *Floor tab on page 178*.)
2. Configure the elevator records. You use the Elevator form to configure elevator records. Here, you select:

   - Method of elevator control (See *Methods of elevator control on page 179*.)

   - Readers (Verify that readers are active on the Reader form. See *Reader tab on page 113*.)

   - Floors

   You can set a reader for elevator control using this form only. When you return to the Reader form and display a corresponding reader record, you notice that all other options in the Logical Type section are not available.
3. The type of modules you want to use in your dedicated controller (DO only or a combination of DO and DI modules) determines the number of floors available. After installing the CPU module, the Power/Communication module, and at least one reader module, there are four slots available that can be used for digital input modules or a combination of digital input modules and digital output modules.
4. The type of modules you want to use in your dedicated controller (DO only or a combination of DO and DI modules) determines the number of floors available. After installing the CPU module, the Power/Communication module, and at least one reader module, there are four slots available that can be used for digital input modules or a combination of digital input modules and digital output modules.

Note: Elevator control does not span controllers. This means the reader, digital outputs, and digital inputs (if applicable) must be on the same controller.

Configuring elevator control using an ACU controller:

1. Create a Controller record and assign the Controller type as an Elevator Controller. This controller cannot manage any thing else. It can only manage elevators.
2. Create Floor records and floor numbers to be used with the elevators.
3. Create Area records on the Area form.

   - Assign readers to the Area. See Area form, Reader tab.

   Note: The Area must also be assigned to an access right for a person to gain access to that reader.
4. Now, you can configure the elevator records. You use the Elevator form to configure elevator records. Here, you select:

   - Method of elevator control
   - Readers
   - Floors to Area association

   You can set a reader for elevator control using this form only. When you return to the Reader form and display a corresponding reader record, you notice that all other options in the Logical Type section are not available.

   Note: Elevator control does not span controllers. This means the reader, digital outputs, and digital inputs (if applicable) must be on the same controller.

Elevator tab

Select this tab to create or edit elevator information.

Figure 78. Elevator tab

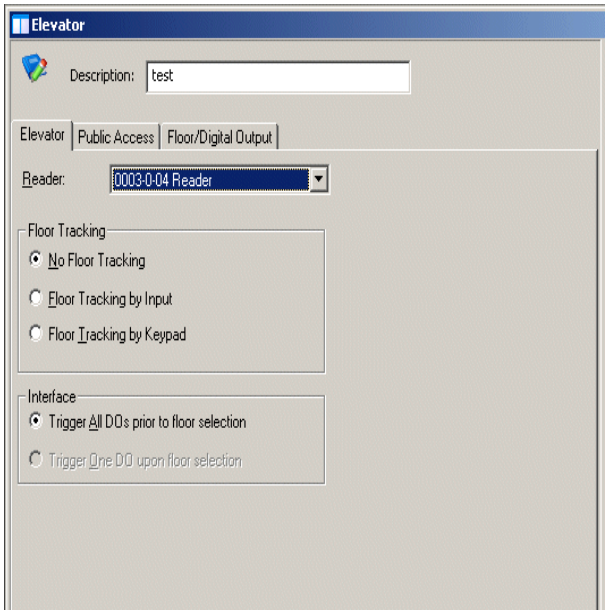


Table 103. Form fields

Element	Description
Reader	To tag a reader as an elevator reader, select a reader from the drop-down list of available readers. If no readers are listed, check that the readers have been marked active on the Reader tab of the Reader form. ***Micro controller:*** The list displays all available readers. ***ACU controller***: The list displays available readers associated with a controller that is set as an elevator controller. These readers are also associated with an Area.
Floor Tracking	Select one of three options: • No Floor Tracking: Floor(s) selected are not sent to Credential History (not tracked). • Floor Tracking by Input: The floor(s) selected are sent to Credential History. • Floor Tracking by Keypad: Floor selection is made by using the keypad of the reader and the floor(s) selected are sent to Credential History. **Note:** Do not switch between floor tracking and no floor tracking in the same elevator record. If you want to change an existing record, delete that record and create a new one with the desired floor tracking method.
Interface	Select one of two options: • Trigger All DOs prior to floor selection: All the appropriate floor selection buttons activate. The user can select one or more floors. • Trigger One DO upon floor selection: All the appropriate floor selection buttons activate. The user can select only one floor.

How to

1. Review the guidelines in *Table 103* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Public Access tab

Note: This tab is available for systems using ACU controllers.

Use this tab to assign an Area and Time Schedule associated with this elevator record during which public access is allowed.

Figure 79. Public Access tab

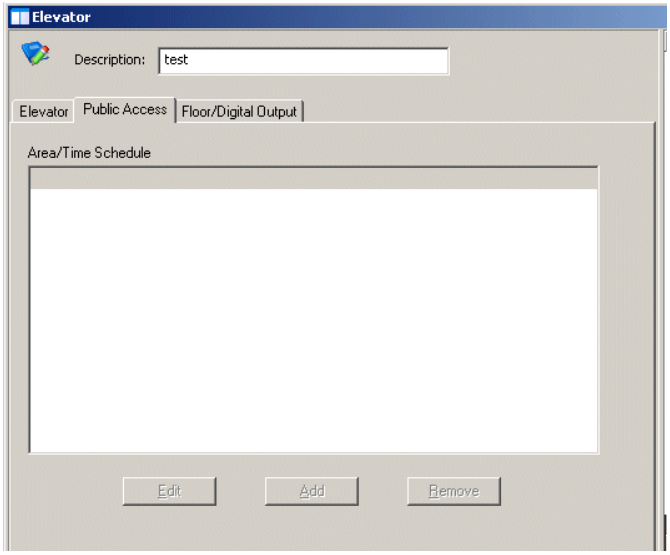


Table 104. Form fields

Element	Description
Area/Time Schedule	This windowpane displays the Area description and associated time schedule for public access to the Area using this elevator.
Edit	Select an Area/Time Schedule and then click **Edit** to open the Area/Time Schedule Selection dialog box, allowing you to change the associated Area or Time Schedule. The Area/Time Schedule dialog box allows you to select and assign an Area and Time Schedule for public access associated with this elevator record. Only Areas in the operator's facilities are available for assignment by this operator. • Select an Area from the drop-down list. • Select a Time Schedule from the drop-down list to associate with the selected Area. Click **OK** to close this dialog box and display the results in the Area/Time Schedule windowpane. Click **Cancel** to terminate and close this window. The entries are not saved.

Table 104. Form fields (continued)

Element	Description
Add	Click **Add** to open the Area/Time Schedule Selection dialog box, allowing you to assign an Area and Time Schedule from drop-down lists to associate with this elevator record.
Remove	Select an Area/Time Schedule and then click to delete from this elevator record.

How to

1. Review the guidelines in *Table 104* and complete this tab.
2. Click **Save** before you exit this tab.

Floor/Digital Output tab

Note: This tab displays ONLY if you select No Floor Tracking or Floor Tracking By Keypad from the Floor Tracking field on the Elevator tab.

Select this tab to link a digital output to a floor.

Note: Elevator control does not span controllers. This means the reader, digital outputs, and digital inputs (if applicable) must be on the same controller.

Figure 80. Floor/Digital Output tab

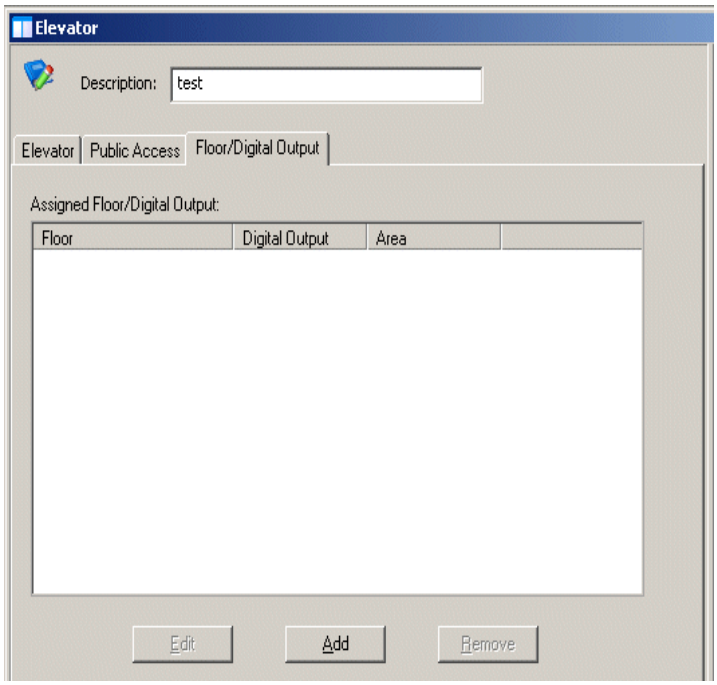


Table 105. Form fields

Element	Description
Assigned Floor/Digital Output	This list box displays the currently assigned floors, digital outputs, and Area (for systems using ACU controllers). **Edit**: To edit a floor/digital output link, select and entry from the list and then click this button. The Floor/Digital Output Selection dialog displays. **Add**: To add a floor/digital output link, click this button. The Floor/Digital Output Selection dialog displays. Use the dialog box to create or edit a floor-to-digital-output link. • **Floor**: Select a floor from the drop-down list of available floors. • **Digital Output**: Select a digital output from the drop-down list of available DOs. • **Area**: This control is available only if the selected reader is owned by an ACU controller. Select an Area from the drop-down list of available Areas. Click **OK** to accept your selections and close this form. **Remove**: To remove a floor/digital output, select an entry from the list and then click this button.

How to

1. Review the guidelines in *Table 105* and complete this tab.
2. Click **Save** before you exit this tab.

Floor/Digital Output/Digital Input tab

Note: This tab displays ONLY if you select Floor Tracking By Input from the Floor Tracking field on the Elevator tab.

Select this tab to link a digital output and a digital input to a floor.

Note: Elevator control does not span controllers. This means the reader, digital outputs, and digital inputs (if applicable) MUST be on the same controller.

Figure 81. Floor/Digital Output/Digital Input tab

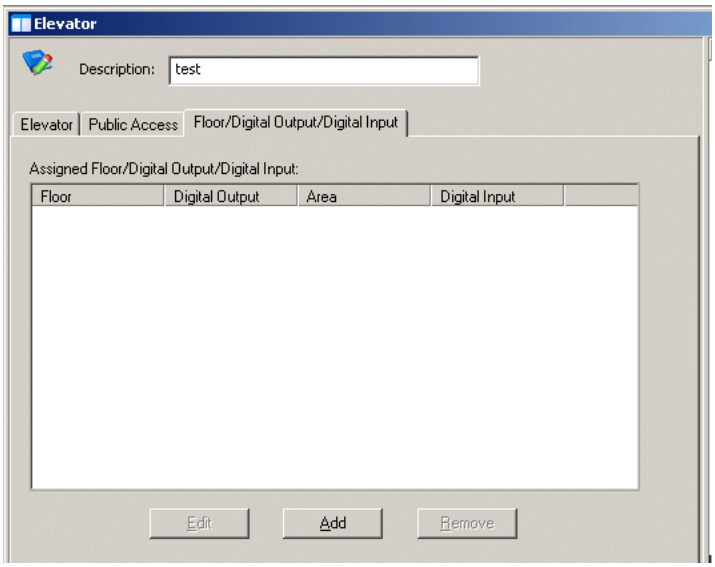


Table 106. Form fields

Element	Description
Assigned Floor/Digital Output/ Digital Input	This windowpane lists the currently assigned floors, digital outputs, digital inputs, and Area (for systems using ACU controllers). **Edit**: To edit a floor/digital output/digital input link, select an entry from the list and click this button. The Floor/Digital Output/Digital Input Selection dialog displays. **Add**: To add a floor/digital output/digital input link, click this button. The Floor/Digital Output/Digital Input Selection dialog displays. Use this dialog box to create or edit a floor-to-digital-output-to-digital-input link. • **Floor**: Select a floor from the drop-down list of available floors. • **Digital Output**: Select a digital output from the drop-down list of available DOs. • **Digital Input**: Select a digital input from the drop-down list of available DIs. • **Area**: This control is available only if the selected reader is owned by an ACU controller. Select an Area from the drop-down list of available Areas. Click **OK** to accept your selections and close this form. **Remove**: To remove a floor/digital output/digital input, select an entry from the list and click this button.

How to

1. Review the guidelines in *Table 106* and complete this tab.
2. Click **Save** before you exit this tab.

Elevator Control Sample Scenarios

Two Options with Floor Tracking by keypad:

1. Install a keypad reader in the elevator cab. A user presents their badge at the reader. The floor number is entered on the keypad to go to that floor.
2. Assign input buttons associated with each floor to a 20-DI board in the micro to do floor tracking by input.

Note: Neither of these choices requires any additional readers outside the elevator cab. When you push the elevator call button, the elevator is called and the door opens but does not go to any floor until a valid badge is presented to the reader in the cab and a valid floor is selected.

Without Floor Tracking

Install a keypad reader in the elevator cab. A user presents their badge at the reader. Presenting a valid badge inside the elevator cab activates the buttons for all floors to which the person has access. The user selects a floor from the elevator buttons.

Note: A keypad reader is not required. No readers are required on each floor. A DI board in the micro is not required.

What's next?

Continue with *Chapter 5, Video on page 187*, if appropriate for your system.

Chapter 5 Video

This chapter provides instructions for configuration of video options associated with video surveillance.

In this chapter:

Overview 188
Define digital video recorders 188
Define camera presets 197
Define cameras 198
Define event triggers 201
Record video to CD 207
Navigate video console 209
Search for video 213
Define CCTV interfaces 216
What's next? 217

Overview

Video driver installation

After installation of the video adapter card, Windows automatically detects the new video card on power up. Follow the installation instructions received with your video driver software; then, reboot your computer.

After your computer has rebooted, you need to select your video resolution. Application computers require that you run in 1024 x 768 resolution. Choose 16-bit High Color minimum. To change your video settings, follow the steps below:

1. Right-click the desktop and select **Properties**.
2. From the Display Properties window, select the **Settings** tab.
3. Select the desired video characteristics.

Define digital video recorders

Digital video surveillance is integrated into the system for this application and requires its own hardware and software. The system supports the following digital video multiplexer/recorders:

Table 107. Form fields

Element	Model Description	Version
GE	GE DVMRe - 4 CD GE DVMRe - 10 CD GE DVMRe - 16 CD	Requires duplex PPC firmware Version 3.18 or later and MUX firmware Version 3.24 or later.
	GE DVMRe CT / StoreSafe Pro - 4 GE DVMRe CT / StoreSafe Pro - 10 GE DVMRe CT / StoreSafe Pro - 16	Requires triplex firmware Version 5.x or later. **CT, StoreSafe, and StoreSafe Pro series recorders are part of the family of wavelet compression-based technology products.**
	GE DVMRe CT II / StoreSafe Pro II - 4 GE DVMRe CT II / StoreSafe Pro II - 10 GE DVMRe CT II / StoreSafe Pro II - 16	**CT II and StoreSafe Pro II series recorders are part of the family of wavejet compression-based technology products.**
Integral Technologies	DVXi DVXe DS Xpress	 3.x 4.x
American Dynamics	Intellex DVMS8000	3.1 and earlier
Nice	Pro Harmony	 8.x
Digital Watchdog	DWPro	All versions
Pelco	DX8000	1.0
Panasonic	HD500A	2.5

Note: Increasing the processor speed and memory on the Server and/or client workstations may be required for optimizing performance in your specific application.

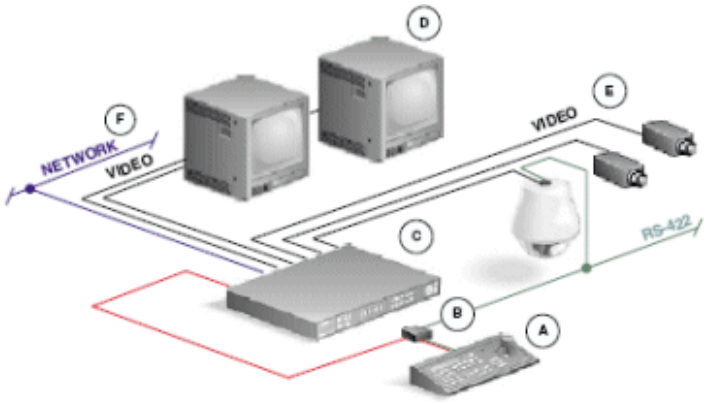
The DVR form, Security Devices group, allows you to configure integrated digital video surveillance within this application. This option provides event-driven video recording, allowing you to access and control live and recorded video and initiate camera control at any workstation within this application system.

- Enterprise Edition supports up to 256 licensed DVR connections.
- Professional Edition supports up to 16 licensed DVR connections.

The following order is recommended for configuration of a DVR system for this application:

1. Set up operators and permissions.
2. Configure the DVR. Refer to the manuals received with your DVR for hardware setup and installation specifics. A sample scenario is displayed below:

Figure 82. Triplex video setup



A ProBridge PTZ data translation device is not required for DVMR^e triplex models.

A. KTD-405 Keyboard
B. Terminal Block
C. Kalatel DVMR^e Triplex
D. Video Surveillance Monitors
E. Stationary and/or Dome Cameras
F. 10/100Mb Ethernet TCP/IP Network

3. Configure DVR devices. DVR devices can be hosted on the Server computer for this application and/or client workstations. The actual number of DVR devices hosted on each Server computer may vary. Distributing DVR hosting across multiple computers may be required for optimizing system performance in your specific application.
4. Create preset records.
5. Configure cameras.
6. Set up event triggers.
7. OPTIONAL: Set up alarm Graphics.

DVR

Digital Video Recorder (DVR): A generic reference to CCTV equipment that can provide digital video multiplexing and/or recording.

The Video Console system program, accessible from the Operations menu, allows you to monitor and control video for multiple DVRs and their associated cameras. Digital Video Viewer can also be accessed on the toolbar for this application by clicking this icon from the toolbar:

Note: On the Digital Video Viewer window, click **Help** for additional information about the program. Additionally, refer to the User Manual of your DVR for specific installation, configuration, and operation instructions.

Digital Video Recorder form

Use this form, in the Security Devices group, to configure DVRs.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Table 108. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. Enter a unique descriptive name for your DVR in the Description field.
Facility	A facility option can be assigned for your new DVR from the Facility drop-down list. When you change a facility designation, it changes the facility for the DVR only. You receive a message displaying, Do other devices change to the same facility as the digital video recorder? Select Yes or No. If you select Yes, the alarm record and camera records change as well. You need to verify the accuracy of the revised records.

Definition tab

Use this tab to assign or edit a bus address, type, host computer, or poll time.

Figure 83. Definition tab

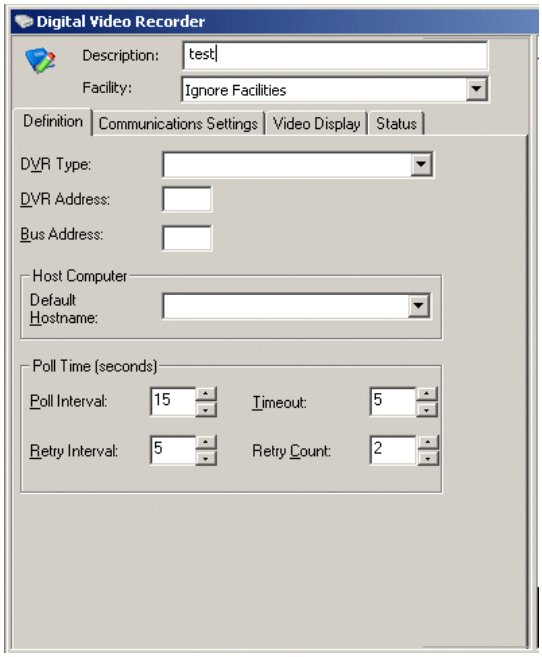


Table 109. Form fields

Element	Description
DVR Address	Enter a DVR Address, a unique logical address associated with this DVR (from 1 to 255). This field is not available to edit existing records. This number is used in this software to uniquely identify the DVR and its related records.
DVR Type	Select a DVR type from the drop-down list. This application currently supports: 10 and 16-camera channel multiplexer/recorder models from Kalatel. This field is not available for edit on existing records. When you click **Save**, the number of camera records are created equivalent to the type of DVR you selected.
Bus Address	The bus address is a 2-digit field in the range of 1 to 32. The bus address refers to the physical DVR device address on the RS-485 bus and must be entered when multiple DVRs exist on a single bus and/or for controlling camera(s) with PTZ capability.
Host Computer	Select a Default Hostname from the drop-down list that hosts the defined DVR and act as its communications server. If the Default Hostname computer is in a failover condition, you cannot re-assign this DVR to any other Host computer except the Active Client that is presently hosting this device.
Poll Time (seconds)	**Poll Interval**: Enter the length of time in seconds that elapse prior to a status request being sent to the DVR for verification of communications and processing of error and/or alarm messages since the last poll. **Timeout**: Enter a length of time to wait for a response after a request prior to retrying (if no response has been returned). **Retry Interval:** Enter the length of time to wait between retries. **Retry Count**: Enter the number of retries to attempt before qualifying a communications failure.

How to

1. Review the guidelines in *Table 109* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Communication Settings tab

Use this tab to assign or edit a TCP/IP address, PTZ control, event tagging, and clock time synchronization.

Figure 84. Communication Settings tab

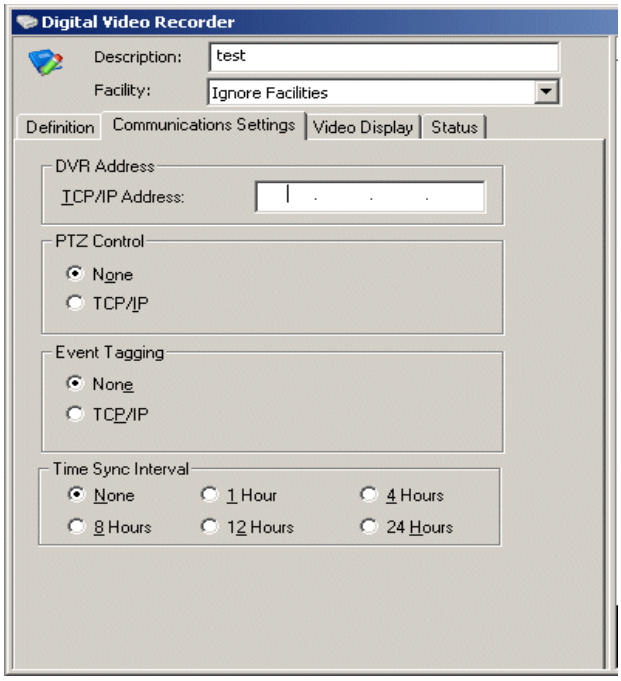


Table 110. Form fields

Element	Description
TCP/IP Address	Assign or edit the TCP/IP network address for the DVR.
Username	Enter the same user name configured locally in the DVR for authenticating connectivity. This is not a required field. The default is no username; however, be aware that the DVR form and DVR device must be identical. If you do not assign a user name in the application but the DVR has a configured username, there is no connectivity authentication.
Password	Enter the same password associated with the assigned user name, if any, that has been configured locally in the DVR for authenticating connectivity. This is not a required field. The default is no password; however, be aware that the DVR form and DVR device must be identical. If you do not assign a password in the application but the DVR has a configured password, there is no connectivity authentication.

Table 110. Form fields

Element	Description
PTZ Control	Select TCP/IP or None. The default is None. • Select **TCP/IP** if cameras with PTZ capability are configured on this DVR and require control from this application. • Select **None** if all cameras on this DVR are either fixed or if no control of PTZ cameras is desired.
Event Tagging	Select TCP/IP or None. The default is None. Select TCP/IP if event triggers are required to tag recorded video upon activity from defined readers and alarms. Select None if no tagging of recorded video is required for event triggers and only access to live video is desired upon activity from defined readers and alarms.
Time Sync Interval	The DVR date and time clock can be synchronized by its host computer to ensure that access control, alarm, and video events across the entire system are time stamped in sync. When DVRs on a centralized system reside in different time zones, the DVRs should be hosted by computers in their same time zone. The hosting computers synchronize their DVR clocks at the interval selected as well as immediately manage any system date and time changes including daylight savings time. Select one: • None (default) • 1 Hour • 4 Hours • 8 Hours • 12 Hours • 24 Hours If DVRs are required to be synchronized with the system for this application date and time clock, 12 Hours is a recommended setting for most systems.

How to

1. Review the guidelines in *Table 110* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Video Display tab

Select this tab to set up your DVR video window display options. These options are configurable per DVR and are intended for optimizing system performance based on your network bandwidth and computing hardware. This application can be configured to request and process video from DVRs in reduced resolution and color for display purposes, while the video remains locally stored on the DVR in its original recorded resolution and color settings. All video is transmitted over the network in a compressed Wavelet format.

Figure 85. Video Display tab

Table 111. Form fields

Element	Description
Resolution	From the drop-down list, select your video display resolution as Low (~12K per image), Medium (~20K per image), or High (~28K per image).
Black and White	Select if you choose to further reduce the size of images transmitted over the network for display purposes. Video displays in black and white; however, the video remains locally stored on the DVR in its original recorded resolution and color settings.
Max Search Time for Recorded Events (secs)	Select or enter the number of seconds. This selection is the length of time a search request for recorded video waits before timing out. Search times may vary depending on network traffic, DVR processing load, and number of recorded events.
Video Standard	Select PAL or NTSC. • PAL (Phase Alternating Line) is a European TV standard. • NTSC (National TV Standards committee) is the U.S. TV standard administered by the FCC. **Note:** If your DVR is a GE Kalatel brand, this standard is auto-detected.

How to

1. Review the guidelines in *Table 111* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Status tab

Perform a search, select a DVR from the right list box of this form window, and click **Status**.

Note: The DVR must be online in order to display a Status pane.

Figure 86. Status tab

Table 112. Form fields

Element	Description
General Status	Displays current time, time powered on, MUX firmware, PPC firmware, and disk capacity.
Camera Status	Displays current status of camera alarms and video loss alarms.
Record Status	Displays status, disk status, time recording, and time until disk is full.
Archiving Status	Displays archive status, device status, time archiving, and time until archive is full.
Ethernet Status	Displays normal connect IP address and connect priority, and live connect IP address and connect priority. • A duplex recorder priority status displays on a line separate from the IP address. • A Triplex and/or Matrix recorder priority status displays as the last entry of the IP address such as: 003.018.146.159,3
Status	Click **Status** to refresh or update changes that occurred since the last Status request. This button is disabled when a status request is in progress.

How to

1. Review the guidelines in *Table 112* to assist you in review of the window on this tab.
2. The status pane clears when you select another DVR from the list box on the right.

Video windows

This is a brief overview of window behavior based on the selections assigned on the Digital Video Recorder form.

Note: Learn more about video windows in *Navigate video console on page 209*.

There are several ways to open a video window:

- On the main toolbar of this application, click the Video icon.
- On the View drop-down menu, select **Enable Alarm Video Pop-up**.
- In the Monitor & Control application group, click the Video Console icon.
- On the Alarm Monitor, when an alarm is generated with associated video, the Video Console icon displays. Right-click the alarm transaction message to access the Video Console application.
- On the Activity Monitor, when an event is triggered with associated video, the Video Console icon displays. Right-click the event transaction to access the Video Console application.
- In the Graphics Console application, click **Quick Launch** when associating devices with graphic maps.

Each window displays a title bar identifying the application name and instance number. The minimize, restore, maximize, and exit options display in the upper right corner of each window.

Resize Window

- To resize a window, point to any corner border and drag a sizing handle to the size window you want to display.
- Increasing the window size is limited to the size of your monitor screen.
- Decreasing the window size is limited to the system default, corresponding to the Small option available on the Video Display tab.

Window Menu

- Save Position: Each window can be independently moved anywhere on the desktop. Select this option to save the position. If you close the window and reopen, the window opens at the saved position. This feature has been incorporated to facilitate multi-window management for both single and multi-monitor workstation configurations.
- Always On Top: Selection of this option keeps the window in the forefront of all windows displaying on your workstation for this application.

Define camera presets

This form, in the Security Devices group, allows you to edit or enter a description and number for a camera preset. After setup and programming of your DVR devices to meet your monitoring requirements, you need to parallel the settings and positions in the configurations in this application. Presets must be defined before you can assign them to a camera on the Presets tab of the Camera form.

Note: This option is available for PTZ cameras only.

Table 113. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. In this field, enter or edit the description for the selected preset. This should be a unique name describing or numbering a preset camera position.
Facility	A facility option can be assigned from the drop-down list of available facilities. The default of Ignore Facilities is assigned if no other selection is made.

Definition tab

Use this tab to assign a number to this camera preset.

Figure 87. Definition tab

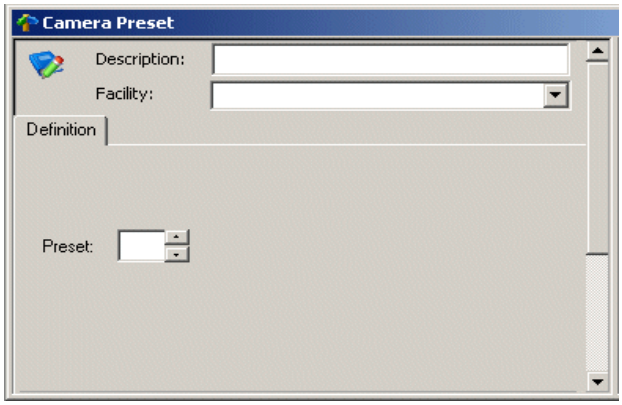


Table 114. Form fields

Element	Description
Preset	In this text field, enter a number within the range of 1 to 32, or use the arrow controls to select a number. This number only references the preset number programmed and stored in a camera with PTZ capability. Click **Save**. This preset is now available for assignment, to a specific camera.

How to

1. Review the guidelines in *Table 114* and complete the field in this tab.
2. Click **Save** after each Preset number that you assign.
3. Click **Add** before beginning each new description or Preset record.
4. Click **Save** before you exit this tab.

Define cameras

Use the Camera form, in the Security Devices group, to edit existing camera preferences. Camera records are automatically created when a DVR is defined on the Digital Video Recorder form. The camera records display in the format `00X-0X Camera` where `00X` is the DVR address and `0X` is the camera number.

Table 115. Form fields

Element	Description
Description	It is recommended that you keep the number prefix to aid in locating the cameras. **Note:** Device description updates are communicated to corresponding alarms, DIs, and DOs. In order for changes to migrate to additional form windows that may be open at the time of a change, the open windows should be closed and then re-opened before the device description is able to be seen.
Facility	A facility option can be assigned for the camera from the drop-down list of available facilities for assignment by this operator. The default of Ignore Facilities is assigned if no other selection is made.

Definition tab

This tab displays the camera channel address, with which DVR this camera is associated, and camera type configurable for Fixed or PTZ. The camera can be enabled or disabled for viewing and managing from within this application. Use this form to edit the preferences of the selected camera record.

Figure 88. Definition tab

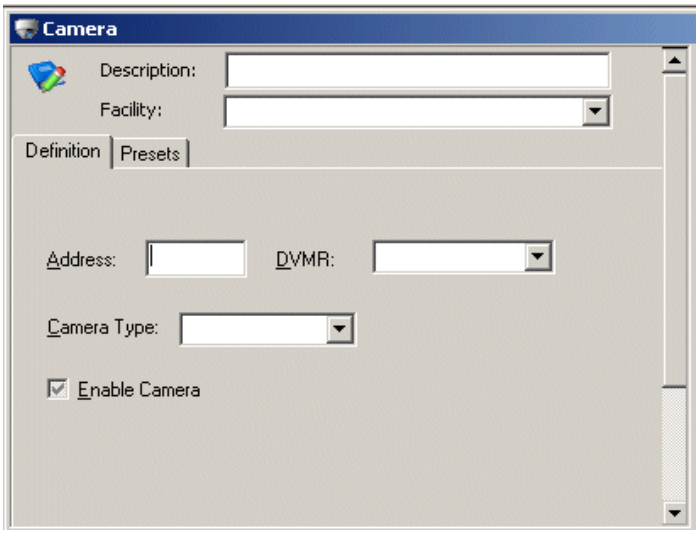


Table 116. Form fields

Element	Description
Address	This is a read-only field. The address of the camera is automatically assigned. The address is a 2-digit number that corresponds to the camera channel on the back of the DVR.
DVMR	This is a read-only field. This field displays the corresponding DVR with which this camera is associated.
Camera Type	Select a type of camera behavior as **Fixed** or **PTZ** from the drop-down list.
Enable Camera	By default, this checkbox is selected. The camera can be enabled or disabled for viewing and managing from within this application and setting accessibility from the Digital Video Viewer. Disabled cameras do not display on the Digital Video Viewer.

How to

1. Review the guidelines in *Table 116* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Preset tab

The Presets tab allows you to assign previously defined presets to a camera. (Presets must first be defined on the Camera Preset form.) Presets are assignable to PTZ cameras only. Assign predefined presets for the selected camera.

Note: This tab is unavailable for fixed cameras.

Figure 89. Presets tab

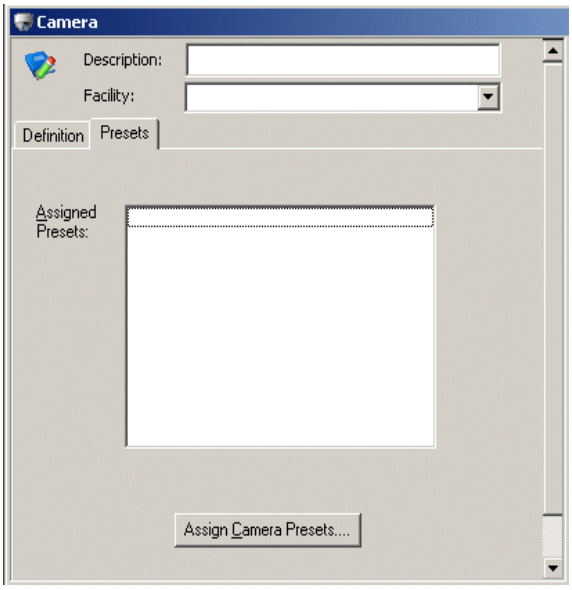


Table 117. Form fields

Element	Description
Assigned Presets	This windowpane displays a list of previously assigned presets.
Assign Camera Presets	Click this button to display the Camera Preset Assignment dialog box. A list of available camera presets displays. These presets were previously defined on the Camera Preset form. • Select one or more presets from the available list and then click the right arrow to assign. • Select one or more presets from the assigned list and then click the left arrow to unassign. Click **OK** to accept the selections and close this window. When the Camera Preset Assignment form closes, the selected presets display in the Assigned Presets windowpane. Click **Save** to save the selections.

How to

1. Review to the guidelines in *Table 117* and complete this tab by assigning the camera presets for this camera.
2. Click **Save** before you exit this tab.

Define event triggers

Event tagging overview

When a digital video camera is activated and associated with a reader event or alarm event, the recording for that activity is tagged. During this tagging process, the camera remains actively recording and then archives the recording to disk.

Once recorded, the recording can be retrieved by a search option based on the event tag. If the Event Trigger that activated the tagging was defined as **Tag as event** instead of **Tag only**, the DVR would have changed recording rate to a special event-recording rate for a period of time, as predefined during the DVR setup and configuration.

When tagged events are identified by a search, retrieved, and viewed, the video playback begins at the start of the event and continues playing until you elect to discontinue the playback.

Event triggers must be created on the Event Trigger form, to define the logical rules that initiate event-driven video response.

Video Event Trigger form

The Event Trigger form, Alarms & Events group, opens with the Preset/Camera tab displayed. An event consists of a camera and either readers, alarms, or zone activity. A trigger causes an event or program routine to be executed, depending on what options you set on the tabs of this form. Intrusion Zone activities can also trigger an event.

Example: A camera begins recording in response to an invalid credential transaction. An alarm is recorded in response to the credential transaction.

Table 118. Form fields

Element	Description
Description	Enter text up to 64 alphanumeric characters in length. The description should convey specific information relating to a physical location, camera, reader, or state, such as: **`Front Door Inv Credential Camera 1 Reader 1`** You can assign a reader alarm or camera alarm or both and this can be reflected in the description of the Trigger.

Preset/Camera tab

This window enables you to assign camera(s) and their associated presets with an event. Up to four cameras can be assigned per event trigger.

Figure 90. Preset/Camera tab

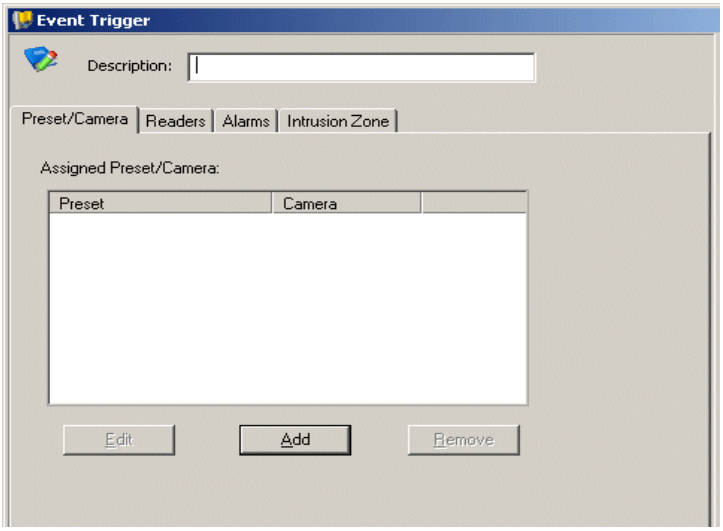


Table 119. Form fields

Element	Description
Assigned Preset/Camera Windowpane	This pane displays assigned preset/cameras for this event.
Edit	Click **Edit** to display the Preset/Camera Selection window. You are able to edit an existing Preset and Camera combination associated with this event. This option is disabled if there are no existing records.
Add	Click **Add** to select a camera and corresponding preset. The available presets for a camera display after you select the camera. Click **OK**. The addition now displays in the Assigned Preset/Camera box.
Remove	Select then click **Remove** to remove a Preset and Camera combination from the list of available combinations in the Assigned Preset/Camera box. This option is disabled if there are no existing records.

How to

1. Review the guidelines in *Table 119* and complete this tab.
2. Click **Save** before you exit this tab.

Readers tab

Select reader(s) and transaction type(s) that become the source for initiating the Event Trigger.

Figure 91. Readers tab

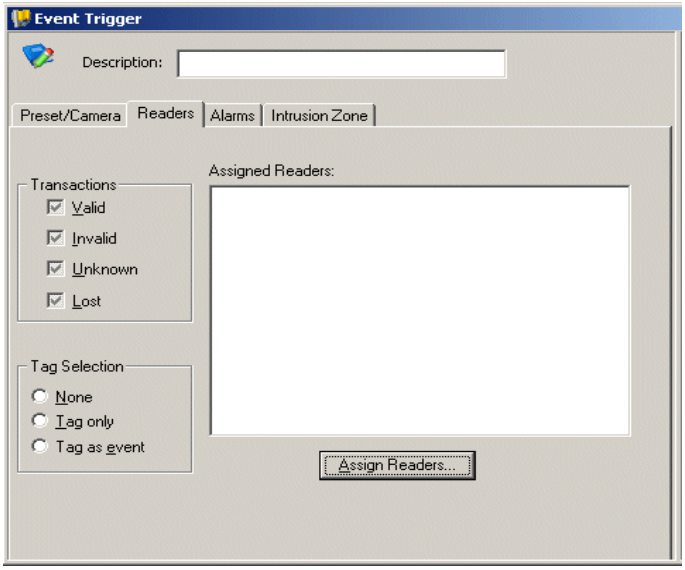


Table 120. Form fields

Element	Description
Assigned Readers	This pane displays readers assigned to this Event Trigger record.
Assign Readers	Click to display a Reader Assignment window, enabling you to select and assign a reader to this Event Trigger. Only readers in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available reader. • Select, and then click the left arrow to unassign a reader. Click **OK** to accept the assignments and close the form.
Transactions	Select any or all of the options as types of reader transactions to trigger an event. • Valid • Invalid • Unknown • Lost For additional information regarding reader transactions, refer to ***Activity monitoring on page 288*.**
Tag Selection	Select one of the Tag options. **None** (No tag is sent to the DVR for marking recorded video or manipulating record rate.) **Tag only** (A tag is sent to the DVR for marking recorded video at the camera(s) current record rate.) **Tag as event** (A tag is sent to the DVR for marking recorded video and for changing the camera(s) record rate to its event record rate settings.)

How to

1. Review the guidelines in *Table 120* and complete this tab.
2. Click **Save** before you exit this tab.

Alarms tab

This tab allows you to select alarm(s) and alarm transaction type(s) that become the source for this Event Trigger.

Figure 92. Alarms tab

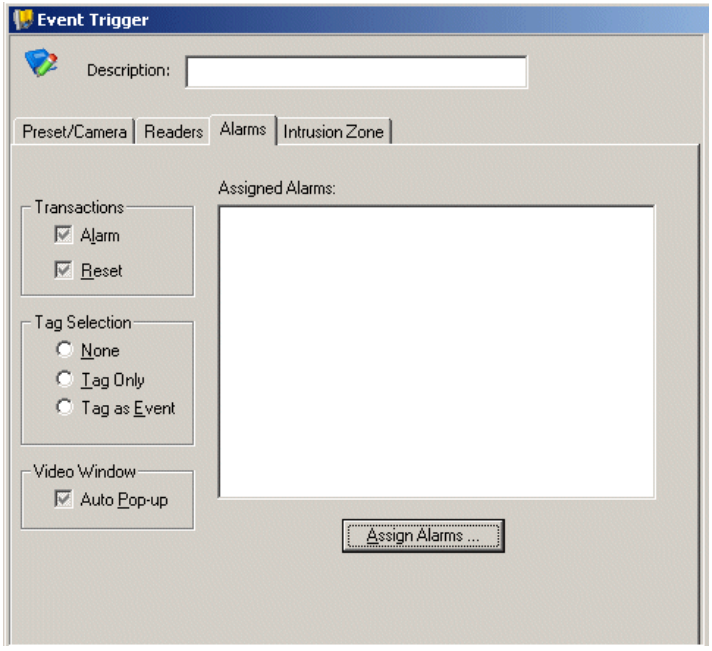


Table 121. Form fields

Element	Description
Transactions	Select one or both options as types of alarm transactions to trigger an event. The alarm must be set for monitoring. **Alarm**: An event is triggered as a result of an alarm. **Reset**: An event is triggered as a result of an alarm reset.
Tag Selection	Select one of the Tag Selection options: **None**: No tag is sent to the DVR for marking recorded video or manipulating record rate. **Tag only**: A tag is sent to the DVR for marking recorded video at the camera(s) current record rate. **Tag as event**: A tag is sent to the DVR for marking recorded video and for changing the camera(s) record rate to its event record rate settings.

Table 121. Form fields (continued)

Element	Description
Assign Alarms	Click to display an Alarm Assignment window, enabling you to select and assign/unassign an alarm record for this Event Trigger record. The Alarm Assignment window displays a list of alarms in the system for this application, for the facilities available for assignment by this operator. All alarms display. If this is a Global system, alarms are not filtered by Region. • Select, then click the right arrow to assign an available alarm. • Select, then click the left arrow to unassign an alarm. Click **OK** to display results in the Assigned Alarms windowpane.
Auto Pop-up	Select this check box to enable an automatic live video pop-up window when an alarm occurs associated with this alarm trigger. Additionally, the Enable Alarm Video Popup must be enabled on the View menu. If this operator's Permission for Digital Video Viewer is not made available, this option does not activate even though selected here. Also, refer to *Enable alarm video popup*.

How to

1. Review the guidelines in *Table 121* and complete this tab.
2. Click **Save** before you exit this tab.

Enable alarm video popup

View menu

Select this item to enable/disable an automatic live video pop-up window when an alarm occurs with an associated alarm trigger. By default, this is a toggle option and is not selected. This option must also be activated by selection of **Video Window Auto Pop-up** on the Event Trigger form, if the operator has been assigned permission for Digital Video Viewer.

If operator permission for Digital Video Viewer is not made available, this option does not activate even though selected on the Event Trigger form, Alarms tab. Once selected, the operator login retains this feature until disabled, no matter which computer in the system was used for logging in.

Intrusion Zone tab

This tab allows you to assign Intrusion Zones and Intrusion Zone transaction type(s) that become the source for this Event Trigger.

Figure 93. Intrusion Zone tab

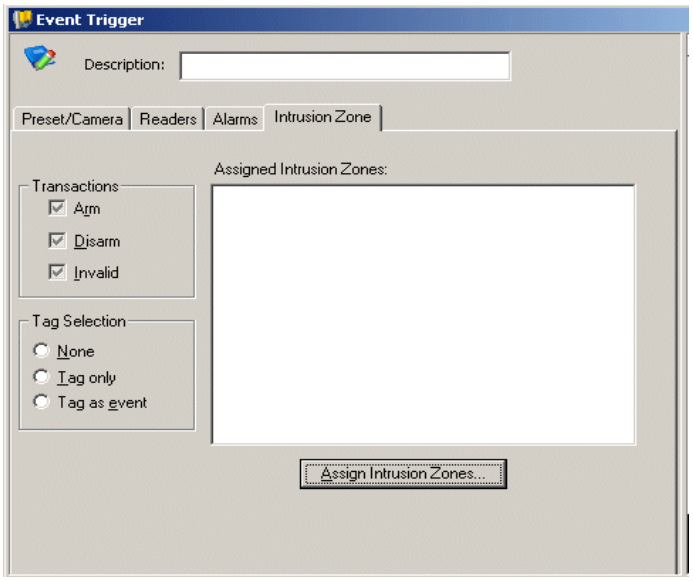


Table 122. Form fields

Element	Description
Transactions	Select any one or all of the types of Intrusion Zone transactions that trigger an event. **Arm**: Intrusion Zone arm transaction in progress. **Disarm:** Intrusion Zone disarm transaction in progress. **Invalid**: Intrusion Zone arm/disarm transaction failed for one of the following reasons: • Device or badging failed. The zones are not secure. • The arm/disarm device is not a part of the selected zones. • The 10-second time period allowed for completion of the arm/disarm process at keypad and reader, has expired. • The presented credential does not have access rights for transactions in the selected Intrusion Zones.
Tag Selection	Select one of the options. **None**: No tag is sent for marking a recorded video or manipulating the record rate. **Tag only**: A tag is sent for marking recorded video at the camera(s) current record rate. **Tag as event**: A tag is sent to the DVR for marking recorded video and for changing the camera(s) record rate to its event record rate settings.
Assigned Intrusion Zones	This list box displays those Intrusion Zones that you have assigned to this Event Trigger.

Table 122. Form fields (continued)

Element	Description
Assign Intrusion Zone	Click to display an Intrusion Zone Assignment dialog box, listing available Intrusion Zones in your system. Those zones selected and assigned when you close the dialog box, display in this list box. The Intrusion Zone Assignment displays when Assign Intrusion Zone is clicked on the Intrusion Zones tab of the Access Right form or Event Trigger form. The window displays a list of all intrusion zones for the controllers in the facilities available for assignment by this operator. You can assign an unlimited number of intrusion zones to an access right. • Select, then click the right arrow to assign an available intrusion zone. • Select, then click the left arrow to unassign an intrusion zone. Click **OK** to accept the selections and display the Intrusion Zones in the Assigned Intrusion Zones list box.

How to

1. Review the guidelines in *Table 122* and complete this tab.
2. Click **Save** before you exit this tab.

Record video to CD

This option, in the Monitors & Controls group, allows you to record video to a CD.

Figure 94. Video CD Burner

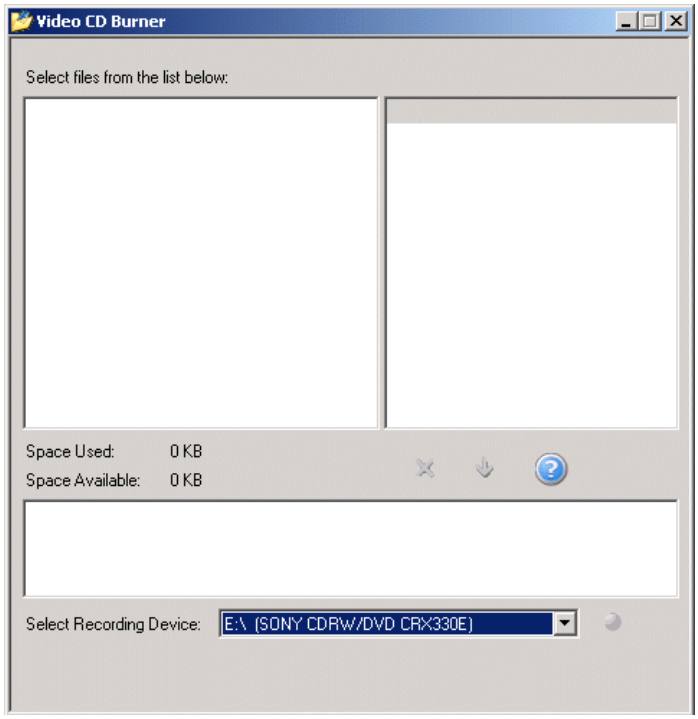


Table 123. Form fields

Element	Description
Select files from the list below	Navigate the directory tree to display a list of previously recorded files, recorded from a DVR. By default, the Video folder of your application displays. If video clips are stored in another folder, navigate to that folder to display the video file names. A list box displays file details such as file names and file sizes.
Space Used	This indicates the amount of existing data on the CD to which you are about to record.
Space Available	This indicates the amount of remaining space on the CD to which you are about to record.
Select Recording Device	From the drop-down list, navigate to the drive or device to which you are about to record.
Record Button	Click to begin recording the selected video file to a CD.
Help	Click to access the Online Help system.

1. Review the guidelines in *Table 123* and complete this tab.

   Note: If you choose to record a video clip to a CD, performance is compromised. If you have other surveillance windows open, close them. You may want to continue surveillance at another computer while the video is recording to CD.

2. GE Security uses only Roxio Direct CD software. If you have a recordable drive and Roxio Direct CD software:

   Note: If you purchased your system from GE Security, Roxio software was provided for you.

   a. Double-click the file name of the video you are going to record.
   b. Verify the path.
   c. Verify the naming convention of the video.
   d. Verify the recording drive and device.
   e. Click to begin recording. The button displays red while recording. If you want to stop the recording in progress, click the red button.
   f. Follow the directions and prompts as they display in the popup windows.

DVR disk is full

This warning notification may display when the DVR internal disk for storing video is reaching its full capacity. Refer to the DVR User Manual for specific information on configuring disk management options.

Navigate video console

Video Console, in the Monitors & Controls group, allows operators to view live and recorded video, select different cameras, and direct cameras to a preset location. Video Console can be accessed in the following ways:

- From the FCWnx Application Group Panel, under Monitors & Controls, Video Console
- From the main toolbar, by clicking the Video Console icon
- If an alarm is generated with associated video, the Video Console icon displays in the Alarm Monitor and you can access Video Console by clicking on it.

Other capabilities include:

- Live video can be sent to multiple video consoles.
- Video Console can be automatically launched, with live and recorded video, when an alarm event occurs.
- Multiple video streams from multiple DVRs can be sent to the Video Console.
- Multiple camera views allow an operator to select two-up, four-up, nine-up, or sixteen-up views.
- Recorded video is available to multiple Video Consoles.
- A single frame of recorded video can be viewed.
- Video can be searched by date and time, play position, or token.
- If the camera has PTZ (Pan/Tilt/Zoom) capabilities, you can use the mouse to control the camera movement. (This feature is not available if another operator has control of the camera.)

Video Console window

The Video Console window consists of the following:

Figure 95. Video Console window

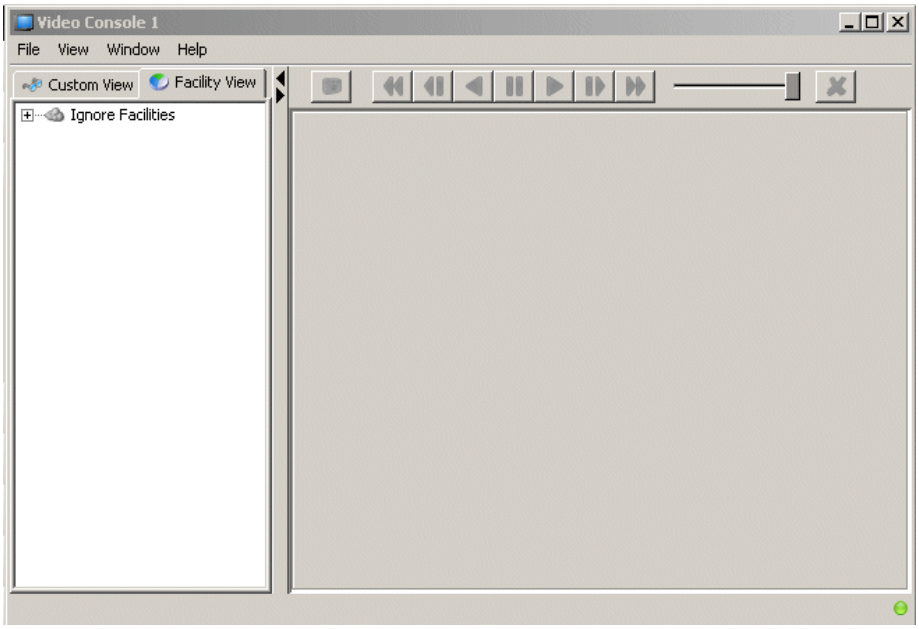


Table 124. Form fields

Element	Description
Title bar	Displays the Video Console and the window instance number. Each time you open another Video Console window, another window instance number displays indicating the window sequence, such as 1, 2, or 3.
Menu bar	The menu bar contains the following menus: File, Action, Display, Window, and Help.
Navigation pane	The navigation pane is made up of two tabs: Physical View and Display View. • The Physical View tab displays configured DVRs and cameras in a hierarchal structure. Each DVR is identified with the associated cameras and preset conditions. The DVRs are listed in alphabetical order. **Note:** All devices are displayed according to the facility to which they are assigned. Therefore, even if a camera is associated to a DVR, if they are assigned to different facilities, the camera does not display under the associated DVR. • The Display View tab displays any custom views that you have saved.
Play controls	The play controls allow you to capture a snapshot and to control and adjust live and recorded video.
Video display	This portion of the screen displays the live or recorded video from the selected DVR/ camera. Multiple cameras can be selected and displayed in two-up, four-up, nine-up, or sixteen-up views.
Status bar	The status bar displays error messages and an icon that indicates if Video Console is connected to the FCWnx server. Green indicates the system is connected and communicating. Red indicates that the system is no longer communicating with the server.

Navigation pane

The navigation pane is made up of two tabs, as listed in the table below:

Table 125. Form fields

Element	Description
Physical View	The Physical View tab displays configured DVRs and cameras in a hierarchal structure according to facility. An operator only sees cameras and DVRs that are in the operator's assigned facilities. Each DVR is identified with the associated cameras and preset conditions. The DVRs are listed in alphabetical order. **Note:** All devices are displayed according to the facility to which they are assigned. Therefore, even if a camera is associated to a DVR, if they are assigned to different facilities, the camera does not display under the associated DVR.
Display View	The Display View tab displays any custom views that you have saved.

Play controls

Table 126. Form fields

Element	Description
	Snapshot: Click to capture the current image (a single frame of video) in a JPG format. You can attach this image to an e-mail message later for distribution. To set the default Snapshots directory in which to store images, select File\Preferences. The Video Viewer Preferences dialog displays, where you can browse to the directory of your choice.
	Fast Rewind: Click to quickly return to the beginning of the video.
	Reverse Pause: Click to view the previous video frame. Continue clicking to move the video backward one frame at a time.
	Reverse: Click to go from the current position to the beginning of the recording.
	Pause: Click to pause the video.
	Play: Click to start playing video.
	Forward Pause: Navigate to the video clip you want to view. Click Forward Pause to view the next frame of recorded video. Continue clicking to move the video forward one frame at a time.
	Fast Forward: Click to quickly advance to the end of the video recording.
	Play Speed: Click the bar and slide to adjust the playback speed of recorded video. The DVR playback speed can be adjusted by this method from minimum to maximum speed.
	Stop: Click to stop playing the video.

File menu

The File menu contains the following submenus:

Table 127. Form fields

Element	Description
Save View	Click to display the Save User View dialog where you can enter a view name and save the selected camera view configuration for future use. All saved views are displayed in the Display Views tab of the Navigation pane.
Remove View	Click to delete the currently selected view from the Display Views tab. You are asked to confirm. Click **Ok** to continue or **Cancel** to exit the dialog.

Table 127. Form fields (continued)

Element	Description
Preferences	Click to display the Video Viewer Preferences dialog, which displays the default Snapshot and Video Clip directories. Click ... to browse for an alternate location in which to store these files.
Exit	Click to exit the Video Console.

Action menu

The Action menu contains the following submenus:

Table 128. Form fields

Element	Description
Closes All	Click to close all currently selected live or recorded video.
Search Video	Click to open the Video Search window, where you can search for recorded video events based on the preference criteria specified.
Save Video To File	Click to display Save Video To File dialog where you can select the file format, file name, and the location in which to save the recorded video. When these selections have been made, click **Start Recording** to begin recording. Once recording begins, this button label changes to Stop Recording.
Play Video From File	Click to display the list of recorded video stored in the VideoClips directory. Navigate to the file and select it to begin playing the video.

Display menu

The Display menu contains the following submenus:

Table 129. Form fields

Element	Description
1 Up	Click to display video in a single video pane.
2-Up Horizontal	Click to divide the video viewing area into two panes, side-by-side.
2-Up Vertical	Click to divide the video viewing area into two panes, one on top of the other.
4 Up	Click to divide the video viewing area into four panes.
9 Up	Click to divide the video viewing area into 9 panes.
16 Up	Click to divide the video viewing area into 16 panes.
Custom-7	Click to divide the video viewing area into 4 panes; the lower right pane is divided into 4 smaller panes making a total of 7 viewing panes.
Custom-11	Click to divide the video viewing area into 2 large panes, 3 medium panes, and 6 small panes, making a total of 11 viewing panes.
Focus Near	Select to change the camera focus to the foreground. Select again until the focus is satisfactory.

Table 129. Form fields (continued)

Element	Description
Focus Far	Select to change the camera focus to the background. Select again until the focus is satisfactory.
Iris Open	Select to increase the amount of light. Select again to increase in increments until the lighting is satisfactory.
Iris Close	Select to decrease the amount of light. Select again to decrease in increments until the lighting is satisfactory.

Window menu

The Window menu contains the following submenus:

Table 130. Form fields

Element	Description
Save Position	Select this option to have the Video Console window display in the same position of your desktop every time it is launched.
Always On Top	Select this option to have the Video Console window remain on top even when it is not the active window on your desktop.

Search for video

When investigating alarm events, investigators or other operators may need to retrieve previously recorded video clips or they may want to view previously recorded video for a specific date and time, which is not necessarily when the event occurs.

Video can be searched by:

- System Event: Searches for events that occurred on readers or alarm/intrusion digital inputs.
- DVR Event: Searches video on specific DVRs or cameras.
- DVR General Playback: Searches by specific dates and times.
- DVR Motion: Searches a region of interest in a motion area.

How to search by system event

1. From the Action menu, select Search Video. The Search Video window displays.
2. Select the System Event Search tab. The search criteria includes: start and end dates, start and end times, readers, alarm/intrusion digital inputs, and event tags. Enter multiple values to narrow the search criteria to locate video clips.
3. Use the Start Date and End Date fields to narrow the dates to search. The current date is the default setting.

   To change the date, click the date field and a calendar displays. From the drop-down lists, select the month and year. Then click on the calendar to select the day. Click **OK**.

4. Use the Start Time and End Time fields to further narrow the search. To change the start and end times, enter the hour and minutes in the field. Use the military format, such as 17:00:00 to represent 5:00 pm.
5. Click **Reader** to select the appropriate reader where the system event occurred.
6. Click **Alarm/Intrusion DIs** to select the appropriate digital input.
7. Enter the **Event tag**.
8. Click **Search**. The Results display with number of matches found, start date and time, end date and time, and type.
9. Double-click an item in the Results to view the video in the Video Console.

How to search by video event

When investigating alarm events, investigators or other operators may need to retrieve previously recorded video clips. Use the DVR Event Search tab to locate video clips stored on the DVR device.

To search for previously recorded video:

1. From the Action menu, select **Search Video**. The Video Search window displays.
2. Select the **DVR Event Search** tab. The search criteria includes: recorder, camera, start and end dates and times, and search type. Enter multiple values to narrow the search criteria to locate video clips.
3. Use the Recorder drop-down list to select the appropriate **DVR**.
4. Use the Cameras drop-down list to select the appropriate **camera**.
5. Use the Start Date and End Date fields to enter the dates to search. The current date is the default setting.

   To change the date, click the date field and a calendar displays. From the drop-down lists, select the month and year. Then click on the calendar to select the day. Click **OK**.
6. Use the Start Time and End Time fields to narrow the search. To change the start and end times, enter the hour and minutes in the field. Use the military format, such as 17:00:00 to represent 5:00 pm.
7. Select the search type. The options are: **Alarm**, **Event**, or **Text**.

   If you select a Text search, enter the text, such as camera name, in the Text field.
8. Click **Search**. The Results display with number of matches found, camera name, start date and time, end date and time, and type.
9. Double-click an item in the Results to view the video in the Video Console. Click Clear to return to the default settings and remove any matches in the Results pane.

How to search by time and date

Investigators and other operators may want to view previously recorded video for a specific date and time, which is not necessarily when the event occurs. The Video Console allows you to retrieve recorded video from the DVR, which differs from only retrieving a marked video clip from an alarm event.

To search for video clips:

1. Use the navigation pane to locate the DVR storing the video event.

2. From the Action menu, select **Search Video**. The Video Search window displays.
3. Select the **DVR General Playback** tab. The search criteria includes: recorder, camera, date, and time. Enter multiple values to narrow the search criteria to locate video clips.
4. Use the Recorder drop-down list to select the appropriate **DVR**.
5. Use the Camera drop-down list to select the appropriate **camera**.
6. The current date displays in the Video Search window. To change the date, click the date field and a calendar displays. From the drop-down lists, select the month and year. Then click on the calendar to select the day. Click **OK**.
7. In the Time field, enter the time using the military format, such as 17:00:00 to represent 5:00 pm. Click **Go**.
8. Move the slider to increase or decrease the play position for recorded video. Zero percent represents the beginning of the recorded video and 100 percent represents the end of the recorded video. Click **Go**.

How to search by motion

1. From the Action menu, select **Search Video**. The Search Video window displays.
2. Select the **DVR Motion Search** tab. The search criteria includes: recorder, camera, start and end dates, and start and end times. Enter multiple values to narrow the search criteria to locate video clips.
3. Use the Recorder drop-down list to select the appropriate **DVR**.
4. Use the Camera drop-down list to select the appropriate **camera**. The Motion Area displays live video from the selected camera.
5. Use the Start Date and End Date fields to narrow the dates to search. The current date is the default setting.

   To change the date, click the date field and a calendar displays. From the drop-down lists, select the month and year. Then click on the calendar to select the day. Click **OK**.
6. Use the Start Time and End Time fields to further narrow the search. To change the start and end times, enter the hour and minutes in the field. Use the military format, such as 17:00:00 to represent 5:00 pm.
7. Use the mouse to select a region of interest in the Motion Area. One area or multiple areas can be selected.
   - Click **Undo** to remove the selected area from the grid.
   - Click **Clear All** to remove all selected areas
   - Click **Select All** to select the entire area.
8. Click **Search**. The Results display with number of matches found, camera name, start date and time, end date and time, and type.
9. Double-click an item in the Results to view the video in the Video Console.

Define CCTV interfaces

The CCTV Interface form, Gateways & Interfaces group, is used for serial interfaces that are interfaced to this application. Following installation of hardware and the CCTV interface software, you must create CCTV alarm records. This form is used to set up CCTV alarms.

Table 131. Form fields

Element	Description
Description	This is a required field and accepts 64 characters.
Facility	A facility option can be assigned from the drop-down list of available facilities for assignment by this operator. The default of Ignore Facilities is assigned if no other selection is made.

CCTV tab

Use this tab to set up a CCTV alarm.

Figure 96. CCTV tab

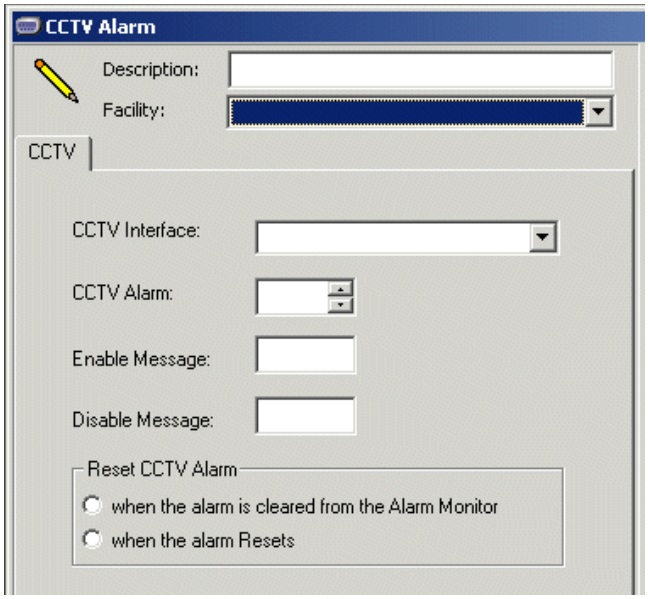


Table 132. Form fields

Element	Description
CCTV Interface	CCTV Interface: Select the Interface from the drop-down list. If there is no interface listed, then it has not been installed.
CCTV Alarm	Select the alarm number from the drop-down list. When you assign a number, an enable and disable message is automatically generated.

Table 132. Form fields (continued)

Element	Description
Enable Message	An enable message is automatically generated when you select a number in the CCTV Alarm field. You can edit these messages, but any changes to the CCTV alarm number overwrite the changes to this message.
Disable Message	A disable message is automatically generated when you select a number in the CCTV Alarm field. You can edit these messages, but any changes to the CCTV alarm number overwrites the changes to this message.
Reset CCTV Alarm	**When the alarm for this application is cleared from the Alarm Monitor:** Select this option if you want the CCTV alarm to reset when the alarm is cleared from the Alarm Monitor. **When the alarm Resets:** Select this option if you want the CCTV alarm to reset when the alarm is reset in the application.

How to

1. Review the guidelines in *Table 132* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

What's next?

Continue with *Chapter 6, Areas and intrusion zones on page 219*, if appropriate for your system.

Chapter 6 Areas and intrusion zones

This chapter provides instructions for configuration of secure areas and intrusion zones.

In this chapter:

Overview - areas 220
Define areas 220
Overview - intrusion zones 229
Define intrusion zones 230
What's next? 235

Overview - areas

The Area form, Places & Policies group, is enabled for systems licensed and configured with ACU controllers.

The Intrusion Zone form, Places & Policies group, is enabled for systems licensed and configured with micro controllers.

Define areas

Note: The Area form is enabled for systems licensed and configured with ACU controllers.

Use this form, Places & Polices group, to configure secure Areas. Your system supports up to 8,192 Areas. Complete the steps in the order presented.

1. You must first configure ACU controllers. (Reader records are automatically created when you configure an ACU controller.) The controllers must be connected and online to arm/disarm if the Area spans controllers. An Area can contain alarm points, entry and exit points (readers), and digital outputs (relays). Areas can be local (does not span controllers) or global (spans controllers).
2. Create Areas. The intended application is suited for arming and disarming secure Areas from outside or inside of the monitored and secured Areas.
3. Assign devices to an Area in order to use the device functionality. The defined secure Areas have the ability to be armed and disarmed through access control by using a credential and keypad reader, or manual control.

   The Area form provides the ability to define areas for each controller that consists of the following:

   - Keypad Disarm and arm
   - Time Schedules
   - *SCIF* (Sensitive Compartmentalized Information Facility) Workstations
   - Readers
   - Alarms
   - APB
   - Digital outputs
4. When an Area record is updated and saved, all controllers are notified of the new configuration.

Note: Before you can delete an Area record:
1) Access rights must be removed.
2) Devices associated with this Area must be removed.
3) This Area must be removed from the Advanced tab of the Person form as assigned for Arm/Disarm.

Table 133. Form fields

Element	Description
Description	This field accepts 64 characters.
Facility	A facility option can be assigned for the Area from the drop-down list of available facilities. The default of Ignore Facilities is assigned if no other selection is made.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Area tab

Use this tab to configure the area record.

Figure 97. Area tab

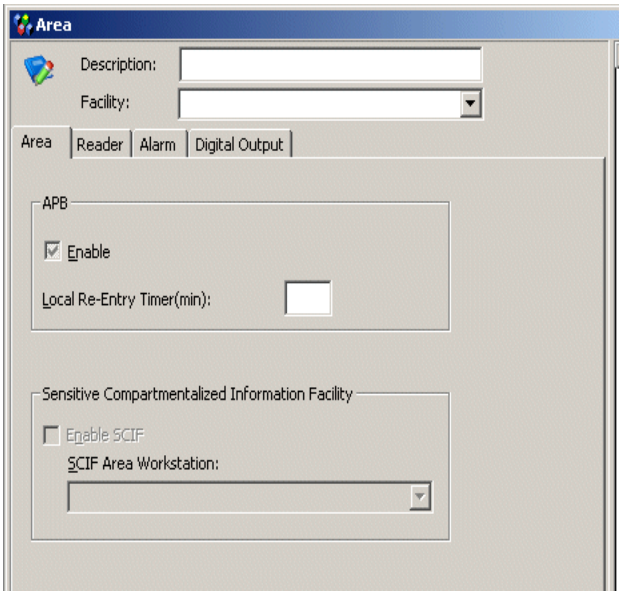


Table 134. Form fields

Element	Description
APB	**Enabled**: Select to enable APB tracking for this Area. Readers associated with this Area must also be assigned a Logical type of APB on the Reader form. **Local Re-Entry Timer(min)**: Enter a number between 0 and 255 as the number of minutes the user cannot enter this Area again regardless of whether they went through an OUT reader. If a user tries to go through an IN reader a second time, the controller sends an invalid Timed APB message to the host. The default setting is '0.' Reader settings assigned on the Reader form override any configuration on this form.

Table 134. Form fields (continued)

Element	Description
Sensitive Compartmentalized Information Facility	**Enable SCIF**: Select this option to indicate that this Area is a *SCIF* (Sensitive Compartmentalized Information Facility). Proceed to select a SCIF Area Workstation. **SCIF Area Workstation**: Select from the drop-down list of those available to be assigned as a SCIF workstation for this Area. When a workstation is selected and the Area record is saved, this workstation controls functionality within the SCIF Area. Modifications to the SCIF configuration can be made at this workstation only. This SCIF workstation allows complete access and configuration of any associated device, reader, alarm, Output (relay), credentialholder, or reporting functions pertaining to this specific SCIF Area. This SCIF workstations has authorization to perform the following functions for the associated SCIF Area devices: • Readers: lock, unlock, system control • Alarms: monitor· • Outputs (Relays): activate, de-activate
Area Arm/Disarm	**Time schedule**: Select a time schedule from the drop-down list. **Arm/Disarm**: Select whether the schedule chosen above arms or disarms the Area.

How to

1. Review the guidelines in *Table 134* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Reader tab

Use this tab to assign readers associated with this Area record.

- Only available reader types of Normal and *antipassback* (APB) are displayed and available for assignment.
- A reader can be assigned to only two areas (one entering Area and one exiting Area or one Area for Neutral).

Figure 98. Reader tab

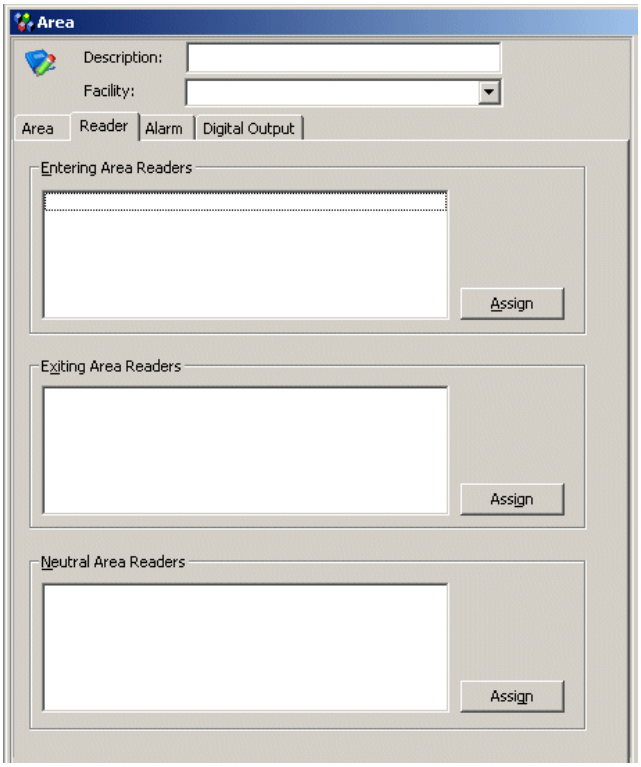


Table 135. Form fields

Element	Description
Entering Area Readers	Click **Assign** to display a Reader Assignment window, enabling you to select and assign a reader to this Area. Assigned readers display in the Entering Area Readers windowpane. This type of reader (which gives an IN status) is used to enter an Area.
Exiting Area Readers	Click **Assign** to display a Reader Assignment window, enabling you to select and assign a reader to this Area. Assigned readers display in the Exiting Area Readers windowpane. This type of reader (which gives an OUT status) is used to leave an Area.
Neutral Area Readers	Click **Assign** to display a Reader Assignment window, enabling you to select and assign a reader to this Area. Assigned readers display in the Neutral Area Readers windowpane. This reader indicates a valid credential read but does not indicate an IN or OUT state. **Note:** Neutral Areas are not associated with APB.
Reader Assignment dialog window	This window displays when you click Assign or Assign Readers, enabling you to select and assign a reader association. Only readers in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available reader. • Select, and then click the left arrow to unassign a reader. Click **OK** to accept the assignments and close the form.

How to

1. Review the guidelines in *Table 135* and complete the reader fields on this tab.
2. Click **Save** before you exit this tab.

Alarm tab

Use this tab to assign alarms associated with this Area record. This is a multi-record selection from an assignment dialog filtered by active facility that consists of available alarm points not already assigned to another Area. The list box on the right displays alarms assigned to this Area.

(Four-State Supervision rules apply regardless of the Armed/Disarmed state of the Area.)

Figure 99. Alarm tab

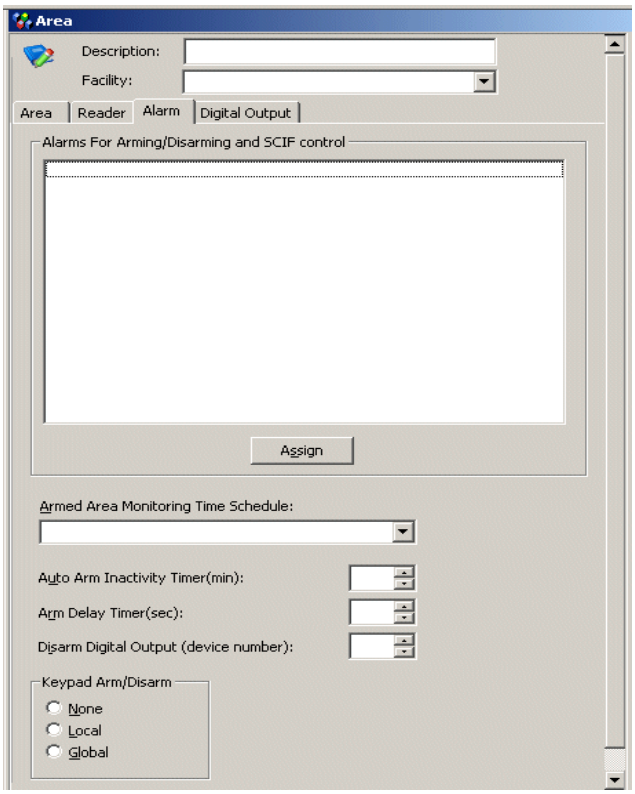


Table 136. Form fields

Element	Description
Alarms for Arming/Disarm and *SCIF* control	This windowpane lists all alarms currently assigned to this Area.

Table 136. Form fields (continued)

Element	Description
Assign	Click **Assign** to display an Alarm Assignment window, enabling you to select and assign available alarm records. The Alarm Assignment window displays a list of system alarms for this application, for the operator's facilities. All alarms display. If this is a Global system, alarms are not filtered by Region. • Select, then click the right arrow to assign an available alarm. • Select, then click the left arrow to unassign an alarm. Click **OK** to display results in the Assigned Alarms windowpane.
Armed Area Monitoring Time Schedule	Select a time schedule from the drop-down list that you want to assign to this Area record. If a schedule is not selected, this configuration is active at all times. If you need to create a schedule, open the Time Schedule form. **Note:** ACU controllers only support 16 Time Schedule intervals. Even if you save a Time Schedule record with more the 16 intervals, only Time Schedules with 16 intervals or less display in this drop-down list • When the Arm/Disarm schedule is set/active (Armed), the associated secure Area is armed by placing all readers offline and all alarm points monitored on. • When the Arm/Disarm schedule is reset/not active (Disarmed), the associated secure Area is disarmed by placing all readers online and all alarm points monitored off.
Auto Arm Inactivity Timer (min)	Enter the amount of time in minutes of inactivity that elapse before the Area automatically arms. The default is 0, which means that the timer is disabled. This field has a range from 0 to 255 minutes. **Example**: Use this feature in Areas monitored by motion detectors. You can define the number of minutes of inactivity that can pass before an unarmed area automatically arms. **Prerequisites** • The Area must be local to the controller, with at least one alarm assigned. • Auto Arm Inactivity Timer must have an entry greater than 0. • The Area must be disarmed without an alarm being activated for the number of minutes specified above. • An optional reader in the Area that beeps indicating one minute until arming. **Note**: Readers with the matching exiting Area will beep, such as the reader on the inside of the door. **After the prerequisites are met**: 1. The reader beeps 1 minute before the arming. 2. The Area arms. 3. If the user is monitoring the 'Auto Arm on Inactivity' alarm, the alarm displays on the Alarm Monitor form. 4. A Zone Armed message displays on the Activity Monitor.
Arm Delay Timer (sec)	Set the amount of time in seconds that is allowed for the credential holder to exit the Area before the alarms are monitored. When configuring the alarm points to be used in the secure Area, make sure that you set the Held Open Options. The default is 0, which means that the timer is disabled. This field has a range from 0 to 255 minutes.

Table 136. Form fields (continued)

Element	Description
Keypad Arm/Disarm	Select to allow arm/disarm of this Area using the reader keypad or manual control. This feature is associated with IKE Readers designed for keypad arming/disarming. **None**: Arm/Disarm by keypad is not enabled in this Area. **Local**: Arm/disarm is local to one ACU controller, one Area **Global**: Arm/disarm spans multiple ACU controllers and Areas. Complete the association by configuring the reader for Arm/Disarm Type on the Reader form and assigning credential holders to this Area. **Note**: Initially, every newly created Area is armed. If the Area form, Alarm tab Keypad Arm/Disarm option is to set to **None**, the Area cannot be disarmed but the readers do allow access. When the Area is entered, an alarm is reported. This may not be the configuration that is intended. If you have no intention of arming/disarming the Area, you have two choices to control these alarms: 1) Manually turn off monitoring on the alarms; 2) Set local keypad masking to Local or Global (even though you do not have an IKE reader) and control the access to the Area by manual control.
Disarm Digital Output	Enter or select a number that represents the digital output (relay) associated with this Area alarm. This entry can be a number between 0 and 175. The default is 0, that is, no digital output is activated for this alarm. Refer to the ***ACU Networked Intelligent Controllers Installation Guide*** for additional information regarding index numbers assigned to digital outputs as presented to the ACU controller.

How to

1. Review the guidelines in *Table 136* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Digital output tab

This tab is enabled for SCIF Areas only.

Use this tab to assign or unassign digital outputs associated with this Area record. This is a multi-record selection from an assignment dialog filtered by active facility that consists of available digital output points not already assigned to another Area.

(Four-State Supervision rules apply regardless of the Armed/Disarmed state of the Area.)

Figure 100. Digital Output tab

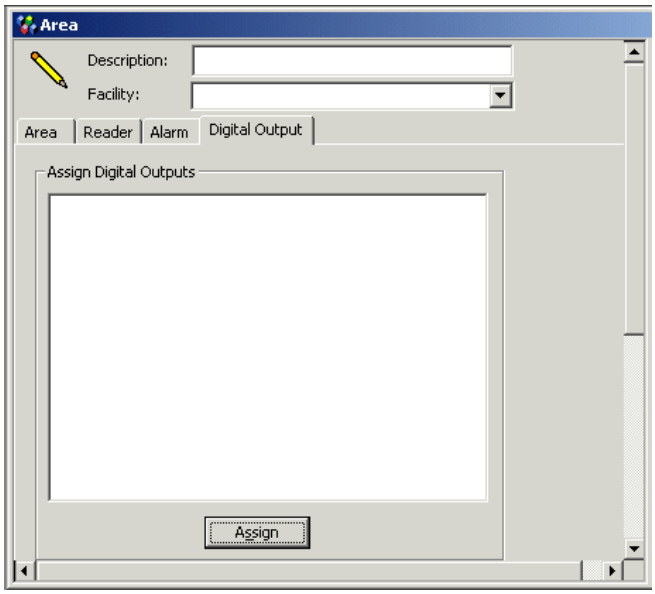


Table 137. Form fields

Element	Description
Listbox	The list box on the right displays digital outputs assigned to this Area.
Digital Output	Click to display a Digital Output Assignment window, enabling you to select and assign available digital output records.

How to

1. Review the guidelines in *Table 137* and complete this tab.
2. Click **Save** before you exit this tab.

Arm/Disarm an Area

This application supports global (spans multiple ACU controllers) and local (one ACU controller) arming and disarming of an Area using the reader keypad or manual control. Global operation requires host-to-controllers communication. Local operation allows arming/disarming without host communication.

Note: Initially, every newly created Area is armed. If the Area form, Alarm tab Keypad Arm/Disarm option is to set to None, the Area cannot be disarmed but the readers do allow access. When the Area is entered, an alarm is reported. This may not be the configuration that is intended. If you have no intention of arming/disarming the Area, you have two choices to control these alarms: 1) Manually turn off monitoring on the alarms; 2) Set local keypad masking to Local or Global (even though you do not have an IKE reader) and control the access to the Area by manual control.

How arming works

1. The operator enters a credential identification number and swipes a credential.
2. The display requests the operator to enter a PIN.

3. The operator enters a PIN number plus 10 (for example, 1234 + 10 = 1244; the operator enters 1244).
4. A message displays the state of the Area arming as successful.

How disarming works

1. The operator enters a credential identification number and swipes a credential.
2. The display requests the operator to enter a PIN.
3. The operator enters a PIN number plus 20 (for example, PIN is 1234 + 20 = 1254; the operator enters 1254).
4. A message displays the state of the Area disarming as successful.

When using the 'Areas for Arm/Disarm' feature

Note: The keypad arm/disarm feature must be configured as 'Local' on the Area form, Alarm tab.

Arm

1. The operator enters an asterisk (*), swipes a credential, and enters a PIN (if required).
2. Using the arrows to scroll up and down through the Areas displayed, select the Area to arm.
3. Select ON.
4. Reader display indicates Area Secured.

Disarm

1. The operator enters an asterisk (*), swipes a credential, and enters a PIN (if required).
2. Using the arrows to scroll up and down through the Areas displayed, select the Area to arm.
3. Select OFF.
4. Reader display indicates Area Unsecure.

Arm/Disarm an area by access right

After you have defined Areas, the Areas tab of the Access Right form allows you to assign multiple Areas to an access right using an assignment dialog.

- Only credential holders with an area assigned on the Access Right form are able to arm and disarm areas using any of the credential/keypad readers within an Area.
- When an area is armed, all readers within the area go offline, and normal access rights do not gain access into the area.
- When an area is disarmed, all readers within the area go online and normal access rights gain access into the area. If schedules are assigned, then the reader follows the schedule.

Arm/disarm by manual control

Manual Area control for arming and disarming is accomplished using the Areas and Zones tab on the Manual Control form. This follows the standard Manual Control form conventions including a Purpose entry by the operator.

Note: Because you have access to an Area, this does not necessarily mean that you can arm/disarm. You must also be configured for Arm/Disarm on the Person form.

Overview - intrusion zones

About Intrusion Options

This feature is enabled for systems licensed and configured with Micro controllers.

Intrusion functionality provides the ability to define local intrusion zones per controller that consist of:

- Readers
- Alarms
- Arm/disarm input point Intrusion DI
- Arm/disarm output point DO

The defined intrusion zones have the ability to be armed and disarmed through access control by using a credential and keypad reader, DI, or manual control.

The intended application is suited for arming and disarming intrusion zones from outside of the monitored and secured areas.

Arm/Disarm

- When the Arm/Disarm is set/active (Armed), the associated secure area is armed by placing all readers offline, all alarm points monitored on, and the arm/disarm DO goes active.
- When the Arm/Disarm Intrusion DI is reset/not active (Disarmed), the associated zone is disarmed by placing all readers online, all alarm points monitored off (unless on a schedule), and the arm/disarm DO goes inactive.

A. Complete the Intrusion Zone Form

The Intrusion Zone form is required for creating a relation between readers, alarm inputs, the Arm/Disarm Intrusion point, and the arm/disarm DO. Perform the following:

1. Define an Intrusion Zone with a description and facility assignment.
2. Select a controller selection to establish the zone source and its intrusion points.
3. Assign the following intrusion zone components: arm/disarm DO, arm/disarm Intrusion DI, readers, and alarms.
    - Arm/Disarm Intrusion DI: This is a single record selection from a drop-down list filtered by active facility that consists of all available Arm/Disarm Intrusion points for the controller. Only the DIs that have not been assigned are available.
    - Alarm Points: This is a multi-record selection from an assignment dialog filtered by active facility that consists of available controller alarm points not already assigned to a zone. (24/7 4-State Supervision rules apply regardless of the Armed/Disarmed state of the zone.)
    - Readers: This is a multi-record selection from an assignment dialog filtered by active facility that consists of available readers not already assigned to a zone. (Readers must be active and nonelevator type.)
    - A zone can be configured to contain the following:

      An Arm/Disarm Intrusion Point with Alarm Points only and no Readers.

An Arm/Disarm Intrusion Point with Readers only and no Alarm Points.

Alarm Points and Readers only with no Arm/Disarm Intrusion Point.

Readers only.

Note: An arm/disarm DO can be assigned for any of these.

4. A Status tab provides the ability to request status of the zone and each of its associated points, as follows.
   - Zone: Armed or Disarmed
   - Arm/Disarm Intrusion DI: Active/Inactive/Trouble
   - Readers: Online or Off-Line
   - Alarm Points: Monitored Off/Monitored On

B. Complete the Access Right form - Intrusion Zone Tab

The Intrusion Zone tab of the Access Right form allows you to assign multiple intrusion zones using an assignment dialog.

- Only credential holders with an Intrusion Zone assigned on the Access Right form are able to arm and disarm zones using any of the credential/keypad readers within a zone.
- When a zone is armed, all readers within the zone go offline, and normal access rights do not gain access into the area.
- When a zone is disarmed, all readers within the zone go online and normal access rights gain access into the area. If schedules were assigned, then the reader follows the schedule.

Note: If you expect to arm/disarm by using any one of the readers within a zone:

- That reader must be assigned on the Access Right tab of the Access Right form and be an assigned reader in the Intrusion Zone listed on the Intrusion Zone tab.

OR

- Individually created access rights must be assigned to the person that arms/disarms the Intrusion Zone. (One right allows access to the readers and another right allows access to the Intrusion Zone.)

Arm/Disarm by Manual Control

Manual zone control for arming and disarming is accomplished using the Intrusion Zone tab on the Manual Control form. This follows the standard Manual Control form conventions including a Purpose entry by the operator.

Define intrusion zones

This form is enabled for systems licensed and configured with Micro controllers.

This option opens the Intrusion Zone form, Places & Policies group, that allows you to create or edit an Intrusion Zone record, then assign related devices, based on the current operator's facilities and permissions. If you are modifying an existing zone configuration, it is recommended that you verify the state of the zone by obtaining a current status.

Table 138. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. Enter a unique description for the Intrusion Zone in this field. In the process of saving a modified configuration, a dialog box displays: **Please note, if zone is currently armed, this update disarms and rearms with your new configuration. Do you want to continue?** If you select **Yes**, the new configuration saves to the database. If you select **No**, your changes are not saved.
Facility	A facility option can be assigned for the Area from the drop-down list of available facilities. The default of Ignore Facilities is assigned if no other selection is made.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Intrusion zone tab

This tab allows you to edit or create an intrusion zone record and associate DI, DO, and devices such as readers and alarms in the operator's selected facilities.

Figure 101. Intrusion Zone tab

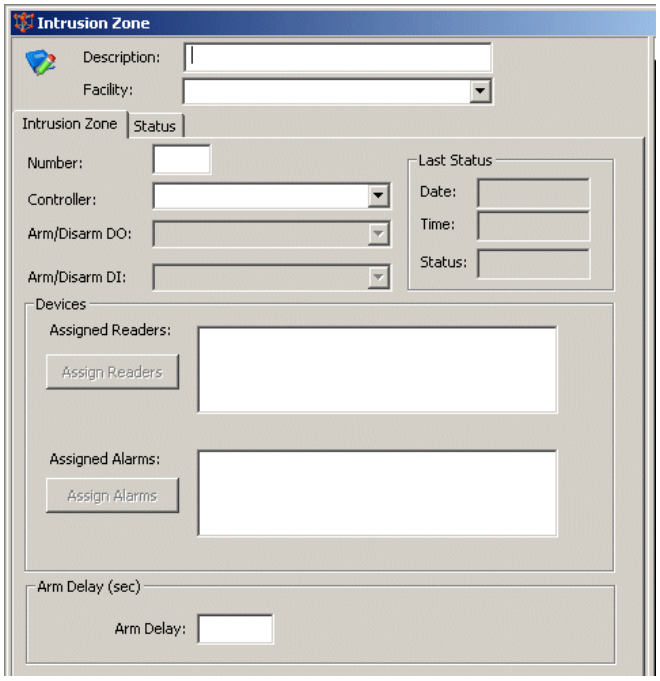


Table 139. Form fields

Element	Description
Number	Assign and enter a number for the intrusion zone, between 1 and 96. Duplicate numbers are allowed but not on the same controller.
Controller	Select a controller from the drop-down list of available controllers that control this intrusion zone. This is a one-to-one relationship and establishes the zone source and intrusion/access points. The controller must be connected and online. **Note:** A Reader or Digital Input and Alarm must be selected in order to save this record.
Arm/Disarm DO	Select one DO from the drop-down list of DOs that trigger when an Intrusion Zone is armed/disarmed. This is an optional assignment. This DO can be assigned to another Intrusion Zone.
Arm/Disarm DI	Select one DI from the drop-down list of available DIs of the Type Intrusion, as assigned on the Digital Input form. This DI can arm/disarm an Intrusion Zone and is an optional assignment. This DI cannot be assigned to another Intrusion Zone. **Note:** When you unassign a DI, save this record. It is now available to re-assign to another Intrusion Zone.
Last Status	**Date**: Date of last zone history transaction on record. **Time:** Time of last zone history transaction on record. **Status**: Status as of last zone history transaction on record. **Note:** In order to refresh this status section, click off of this record then back or close then reopen the form.
Devices	**Assigned Readers**: This list box displays a list of available, active readers in the same zone, belonging to the selected controller. You must assign at least one reader OR a digital input and alarm to an Intrusion Zone. The reader cannot be assigned to an elevator. Click **Assign Readers** to display a dialog box that enables you to assign active readers. The Reader Assignment window displays when you click **Assign** or **Assign Readers**, enabling you to select and assign a reader association. Only readers in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available reader. • Select, and then click the left arrow to unassign a reader. Click **OK** to accept the assignments and close the form. **Assigned Alarms**: This list box displays a list of intrusion alarms in the same zone, not already assigned, on the selected controller. This cannot be an external, DVMR, or a logical such as Host Comm or Lost Credential alarm. Click **Assign Alarms** to display a dialog box that enables you to assign alarms. This is an optional assignment. The Alarm Assignment window displays a list of alarms in the system for this application, for the facilities available for assignment by this operator. All alarms display. If this is a Global system, alarms are not filtered by Region. • Select, then click the right arrow to assign an available alarm. • Select, then click the left arrow to unassign an alarm. Click **OK** to display results in the Assigned Alarms windowpane.

Table 139. Form fields (continued)

Element	Description
Arm Delay (sec)	**Arm Delay**: Enter the number of seconds to delay the arming of this intrusion zone. This field accepts up to 255 seconds. This time limit should allow a person to pass into or out of a monitored area before the zone is armed. **Note:** If your system is UL-listed, the delay cannot exceed 60 seconds. Refer to the UL Certification Requirements in your ***Installation Manual***.

How to

1. Review the guidelines in *Table 139* and complete this tab.
2. Click **Save** before you exit this tab.

Status tab

This tab displays the status of all devices associated with this zone and status of the Zone.

Figure 102. Status tab

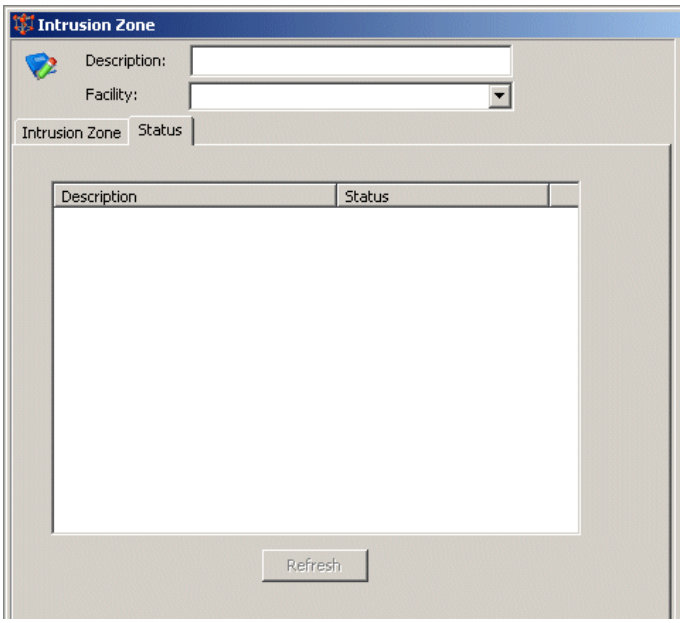


Table 140. Form fields

Element	Description
Status	This list box displays the status of all devices associated with this Zone and status of the Zone.
Reader Status	**Online/offline Alarm Status**: Monitored on/monitored off **Zone Status**: Armed/Disarmed **Digital Input**: On/off/trouble **Digital Output Status**: Active/inactive **Refresh**: Click to refresh or update changes that occurred since the last status Refresh request.

How to

1. Perform a search.
2. Select an Intrusion Zone record.
3. Click **Refresh**.

Arm/disarm an intrusion zone

Arm/disarm an intrusion zone using access rights

Any credential and keypad reader or keypad within a defined zone can be used to arm and disarm the zone with a valid access right for the reader and an Intrusion Zone assigned.

Arm = * 1 # followed by a valid credential read.

- If all alarm points are reset (not in an active state of alarm) and all doors closed, then all readers are placed offline (doors locked) and alarm points are monitored on. The corresponding Digital Output is triggered as selected on the Intrusion Zone form.
- When the zone is successfully armed, all readers in the zone provide visual indication that the zone is armed.

  Note: We recommend using CASI brand readers, configured to display the PIN light ON or flashing, depending on the selected reader model. A Zone armed transaction is generated and displays on the Activity Monitor form.

- When a zone is not successfully armed due to an invalid zone configuration on the Access Right form, an Arm/Disarm Failed, Invalid Access Right transaction is generated.
- If any alarm points are set (in an active state of alarm) or a door is open, the zone does not become armed. An Arm/disarm Failed Zone not secure transaction is generated and displayed on the Activity Monitor form.

Disarm = * 0 # followed by a valid credential read.

- All alarm points in the zone are monitored off and readers in the zone are placed online for normal operation.

  Note: We recommend using CASI brand readers, configured to display the PIN light switching from ON or flashing to OFF, depending on the selected reader model. A Zone disarmed transaction is generated and displays on the Activity Monitor form.

- When a zone is not successfully disarmed due to an invalid credential, an Arm/Disarm Failed, Invalid Access Right transaction is generated.
- When a zone is disarmed, all normal access control rules apply for gaining access.

Arm/Disarm an Intrusion Zone Using Arm/Disarm Intrusion DI

All of the same rules apply as if arming or disarming using an access right.

- When the zone is successfully armed, all readers in the zone should provide visual indication that the zone is armed and a Zone Armed transaction is generated on the Activity Monitor form.
- When a zone is not successfully armed, an Arm/disarm Failed transaction is generated.
- When a zone is disarmed, all normal access control rules apply for gaining access and a Zone Disarmed transaction is generated.

What's next?

Continue with *Chapter 7, Access rights, departments, persons, and credentials on page 237*.

Chapter 7 Access rights, departments, persons, and credentials

This chapter provides an overview of the forms used to create and assign access rights, and create department, person, and credential records.

In this chapter:

Overview 238
Define access rights 238
Define personnel type 245
Define departments 246
Define persons 247
Image capture 256
Design credentials 259
Credential design form 260
Define credentials 262
Mass update 268
Define credential alias 270
Create custom credential status 271
Create credential formats 273
What's next? 277

Overview

We recommend that you complete the forms described in this chapter in the order presented.

The forms described in this chapter create access rights to define where (with readers) and when (with time schedules) an individual can gain entry. Following the creation of access rights and departments, you are able to create person records and assign access rights and departments to the person records. If your company is using credentials, you may want to capture an image and design a credential that incorporates that image.

Define access rights

Use the Access Right form, Places & Policies group, to create access rights:

- To define where (with readers) and when (with time schedules) an individual can gain entry.

(For systems using Micro controllers)

- To define which floors a person can access and what digital output groups a person can trigger with a valid credential:

  Note: Floors and elevators are assigned to an access right.

- Allow the ability to arm/disarm (with a reader) an Intrusion Zone and access a particular Zone. Intrusion Zones can be assigned to an access right.

(For systems using ACU controllers)

- You can assign Areas to an access right and then, assign a time schedule and dates to the Area access right.

Table 141. Form fields

Element	Description
Description	This is a required field and accepts 64 characters.
Facility	A facility option can be assigned for the Access Right from the drop-down list of available facilities for assignment by this operator. The default of Ignore Facilities is assigned if no other selection is made.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Note: ***For Micro controller readers***, assign readers to the access right using the Access Right tab.

For ACU controller readers, assign the readers to an Area first. Then, assign the Area to the access right using the Area tab.

Access rights tab

Note: ***This tab is enabled for systems licensed and configured with Micro controllers.***

Use this tab to assign readers owned by Micro controllers to this access right record. You can add additional control to the access right by assigning a time schedule.

Figure 103.Access rights tab

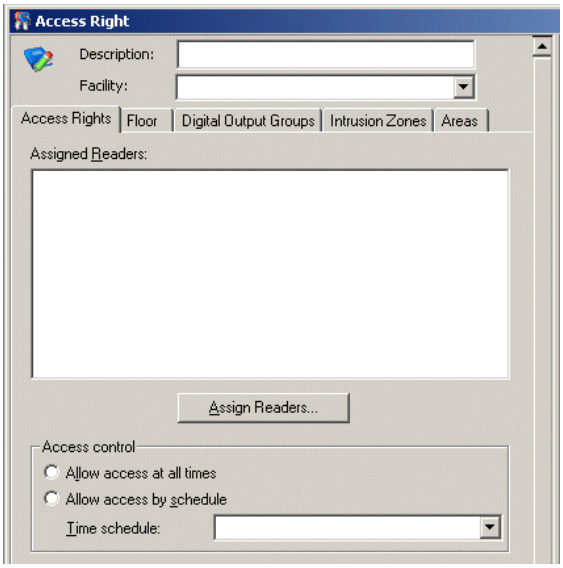


Table 142. Form fields

Element	Description
Assigned readers	This windowpane lists all readers currently assigned to this access right.
Assign Readers	Click to display the Reader Assignment dialog box and select from a list of readers available for assignment by this operator. If no readers are listed, check that the readers have been marked Active on the Readers tab of the Reader form. The Reader Assignment window displays when you click **Assign** or **Assign Readers**, enabling you to select and assign a reader association. Only readers in the operators' facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available reader. • Select, and then click the left arrow to unassign a reader. Click **OK** to accept the assignments and close the form.
Access control:	**Allow access at all times**: Select this option to allow access all the time, in all modes. **Allow access by schedule**: Select this option to assign a time schedule to this access right. The time schedule governs when the access right grants access to the assigned readers. **Time schedule**: If you selected **Allow access by schedule**, this field is now available to select a time schedule from the drop-down list of previously created time schedules. **Note:** If you do not have valid access to a reader that belongs to an Intrusion Zone due to a schedule in that access right, you are not able to arm/disarm a zone.

How to

1. Review the guidelines in *Table 142* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Floor tab

Note: ***This tab is enabled for systems licensed and configured with Micro controllers.***

This tab allows you to configure controls for elevators and floors by assigning them to access rights.

Figure 104.Floor tab

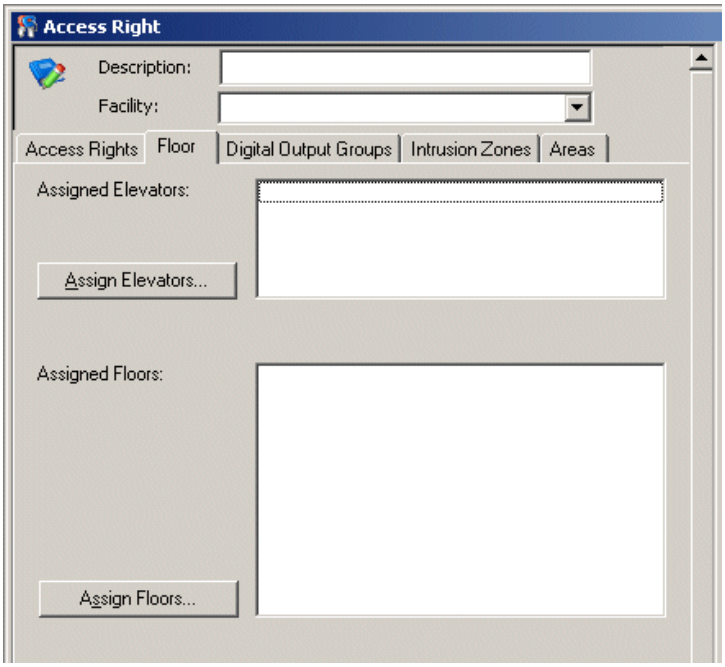


Table 143. Form fields

Element	Description
Assigned elevators	This windowpane displays a list of the elevators assigned to the current access right.
Assign Elevators	Click this button to display the Elevator Assignment dialog box and select from a list of elevators available for assignment by this operator. If no elevators are listed, check that the elevators have been configured on the Elevator form. The Elevator Assignment window displays when you click **Assign Elevators**, enabling you to select and assign an elevator association for this form. Only elevators in the operators' facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available elevator. • Select, and then click the left arrow to unassign an elevator. The elevators that display in this list are those that are configured on the Elevator form.
Assigned floors	This windowpane displays the floors assigned to the current access right.

Table 143. Form fields (continued)

Element	Description
Assign Floors	Click this button to display the Floor Assignment dialog box and select from a list of floors available for assignment by this operator. Only floors assigned to the selected elevators are available for assignment. If no floors are listed, verify that the floors have been configured on the Floor form. The Floor Assignment window displays when you click **Assign Floors**, enabling you to select and assign a floor association for this form. Only floors assigned to the selected elevators are available for assignment. Only floors in the operators' facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available floor. • Select, and then click the left arrow to unassign a floor. The floors that display in this list are those that are configured on the Floor form.

How to

1. Review the guidelines in *Table 143* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Digital Output Groups tab

Note: ***This tab is enabled for systems licensed and configured with Micro controllers.***

This tab allows you to assign groups of digital outputs to access rights.

Figure 105.Digital Output Groups tab

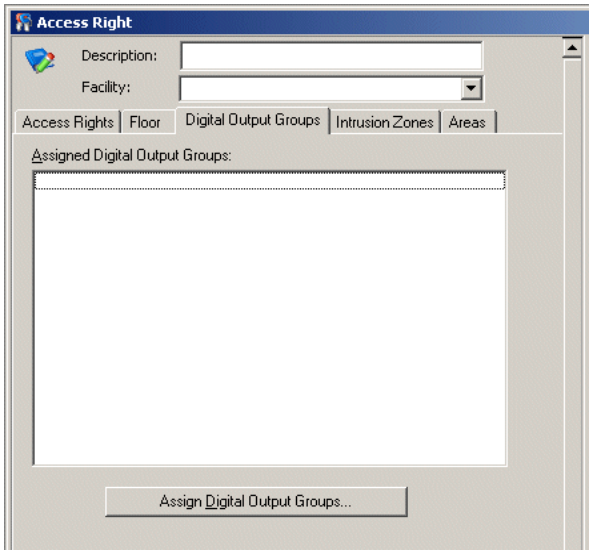


Table 144. Form fields

Element	Description
Assigned Digital Output Groups	This windowpane displays a list of assigned output groups for the current access right.
Assign Digital Output Groups	Click this button to display and assign digital output groups to the selected access right. Only DO Groups that are related to the same controller as the readers selected in the Access Right tab are available for assignment. If no digital output groups display, verify that digital output groups were set up on the Digital Output Group form. The Digital Output Group Assignment dialog box displays when you click **Assign DO Groups**, allowing you to select and assign DO groups you want associated with the selected record. Only DO groups in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available DO group. • Select, and then click the left arrow to unassign a DO group. Click **OK** to display results in the Outputs Groups windowpane.

How to

1. Review the guidelines in *Table 144* and complete the assignment on this tab.
2. Click **Save** before you exit this tab.

Intrusion Zones tab

Note: ***This tab is enabled for systems licensed and configured with Micro controllers.***

This tab allows you to assign intrusion zone control to previously created access rights. Access to a reader and access to an intrusion zone are two separate access rights. Only credential holders with an Arm/Disarm Intrusion Zone access right are able to arm and disarm zones by accessing a credential/keypad reader within a zone. When a zone is armed, all readers within that zone go offline; therefore, normal access rights do not gain access into the area.

Figure 106.Intrusion Zones tab

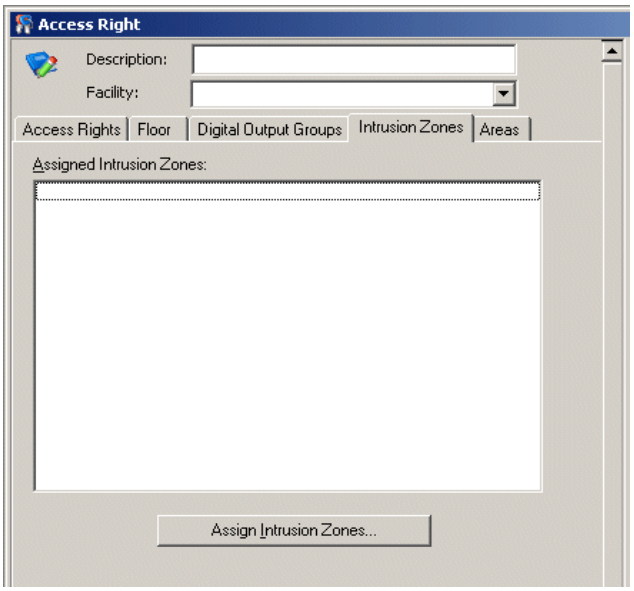


Table 145. Form fields

Element	Description
Assigned Intrusion Zones	This windowpane displays a list of previously assigned intrusion zones for the currently selected access right record.
Assign Intrusion Zone	Click this button to display the Intrusion Zone Assignment dialog box, allowing you to assign and unassign intrusion zones to the selected access right. If no intrusion zones display, verify that intrusion zones were configured on the Intrusion Zone form. The Intrusion Zone Assignment window displays when **Assign Intrusion Zone** is clicked on the Intrusion Zones tab of the Access Right form or Event Trigger form. The window displays a list of all intrusion zones for the controllers in the facilities available for assignment by this operator. You can assign an unlimited number of intrusion zones to an access right. • Select, then click the right arrow to assign an available intrusion zone. • Select, then click the left arrow to unassign an intrusion zone. Click **OK** to accept the selections and display the Intrusion Zones in the Assigned Intrusion Zones list box. **Note:** If you do not have valid access to a reader that belongs to an Intrusion Zone due to a schedule in that access right, you are not able to arm/disarm a zone.

How to

1. Review the guidelines in *Table 145* and complete the assignment on this tab.
2. Click **Save** before you exit this tab.

Areas tab

Note: This tab is enabled for systems licensed and configured with ACU controllers.

Use this tab to assign Areas to an access right, and assign a time schedule. Areas are owned by ACU controllers.

Figure 107.Areas tab

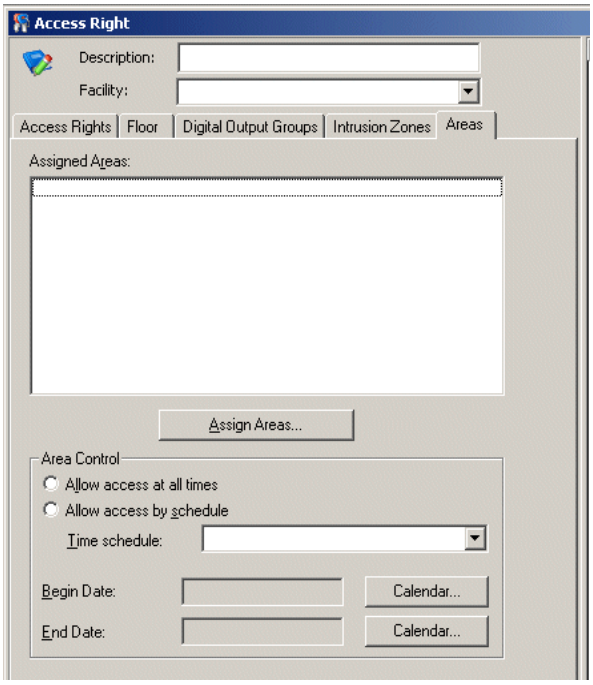


Table 146. Form fields

Element	Description
Assigned Areas	This list box displays a list of Areas currently assigned to this access right.
Assign Areas	Click to display the Area Assignment dialog box and select from a list of Areas available for assignment by this operator. The Area Assignment window displays when you click **Assign Areas**, enabling you to select and assign an Area association. Only Areas in the operators' facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available Area. • Select, and then click the left arrow to unassign an Area. Click **OK** to accept the assignments and close the form.

Table 146. Form fields (continued)

Element	Description
Area Control	**Allow access at all times**: Select if you want the access right to allow access at all times. **Allow access by schedule:** **Time Schedule**: The time schedule governs when the access right grants access to the Area. The default for all Areas is Always. If you want to change the schedule for this Area, select a schedule from the drop-down list. If you need to create a schedule, open the Time Schedule form. **Note:** ACU controllers support eight Time Schedule intervals per Time Schedule. Even if you previously saved a Time Schedule record with more than eight intervals, only eight intervals are saved to the controller. **Begin Date**: Click to display a *calendar* dialog to select the day, month, and year to begin this access right. The default is today's date. **End Date**: Click to display a *calendar* dialog to select the day, month, and year to end this access right. The default is 20 years from today's date.

How to

1. Review the guidelines in *Table 146* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Define personnel type

The Personnel Type form, Personnel group, is used to create category types for employees and assign default credential designs for each category.

Personnel Type tab

Use this tab to create personnel types and assign a default credential design to each personnel type.

Figure 108.Personnel Type tab

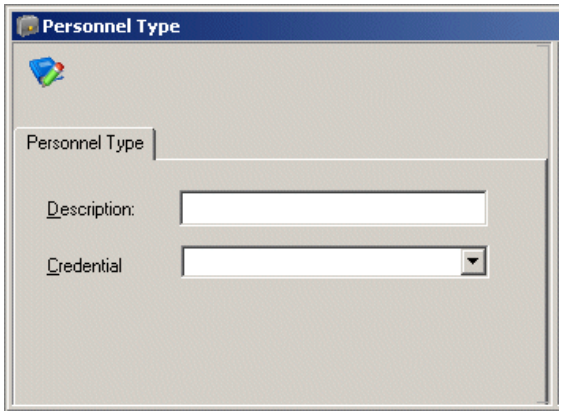


Table 147. Form fields

Element	Description
Search	Click to display a list of existing types. Three personnel types come standard with this application: • Permanent • Contractor • Temporary
Description	This field is required and accepts 64 alphanumeric characters. Enter a basic description of the personnel type.
Credential Design	Select a default credential design from the drop-down list of available designs. Your selected design prints whenever credentials are sent to the printer for people assigned the current personnel type. Credential designs are created on the Credential Design form. If you do not want the credential to imprint the default design, the design can be changed when the credential is printed.

How to

1. Review the guidelines in *Table 147* and complete the fields on this tab.

   Example: You may want all Permanent Personnel to have a Portrait credential.

   1a. Assign the Description as `Permanent`.

   1b. Assign the Credential design as `Portrait`.

2. Click **Save** before you exit this tab.

Define departments

The Department form, Personnel group, allows you to create a department that you can then assign to a person record using the Person form. Department selection can also be used to group records when running a Person Report.

Table 148. Form fields

Element	Description
Facility	A facility option can be assigned for the Department from the drop-down list of available facilities for assignment by this operator.

Department tab

Use this tab to define Department names within your company.

Figure 109.Department tab

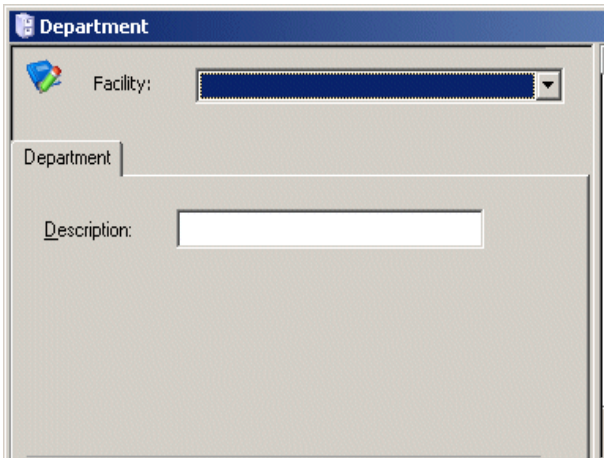


Table 149. Form fields

Element	Description
Description	This field accepts 64 alphanumeric characters. Enter a Department name or edit an existing Department name in your company.

How to

1. Review the guidelines in *Table 149* and complete the field on this tab.
2. Click **Save** before you exit this tab.

Define persons

Use the Person form, Personnel group, to create a record for a person, someone who can access the readers controlled by the system.

Note: A Person record assigned to a suspended credential that has 'Enable Line Coloring for Suspended Credentials' enabled on the Preference form displays in red font in the list box on the right.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Table 150. Form fields

Element	Description
Last Name	Enter the last name of the individual record you are creating. This is a required field.
Facility	A facility option can be assigned to this record from the drop-down list of available facilities for assignment by this operator.

Personnel tab

Create a record of an employee's personal information.

Note: Only Last Name, Personnel Type, and Employee Number are required fields.

Figure 110.Personnel tab

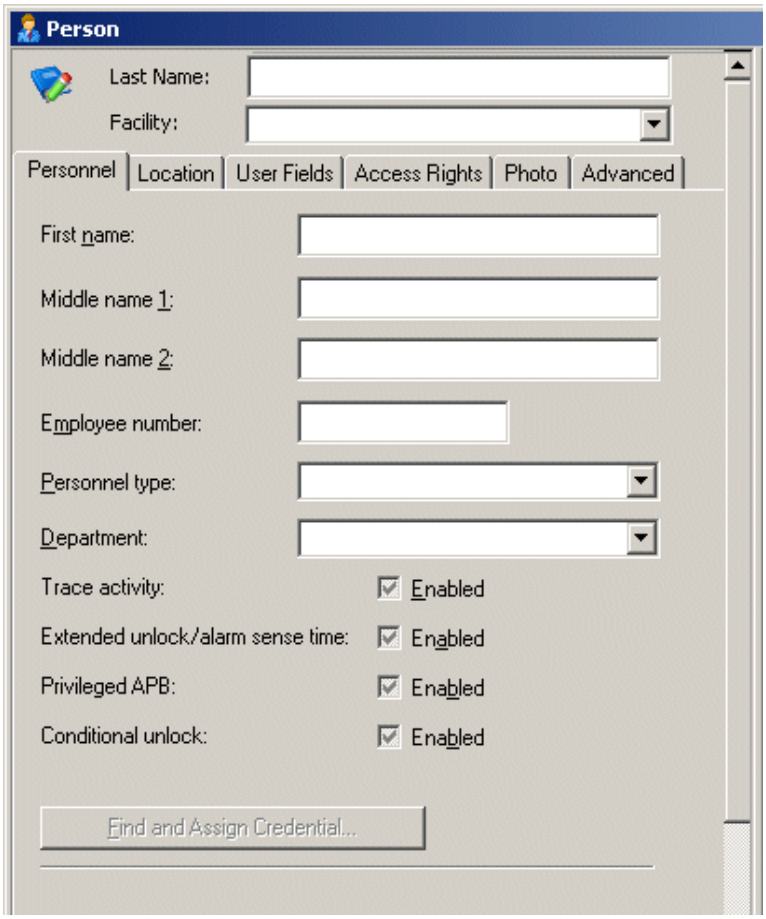


Table 151. Form fields

Element	Description
First name	Enter the first name of the person.
Middle name 1	Enter the middle name of the person
Middle name 2	Enter an additional name, such as another middle name, of the person. **Note:** Initials, as displayed in the list box on the right, are the result of the first letter of the First name and the first letter of each Middle name entered.

Table 151. Form fields (continued)

Element	Description
Employee number	Enter a number assigned to and identifying this employee such as the employee's social security number. This is a required field and the record does not save if the Employee number is left blank or if the number is not unique to this application. The field accepts up to 12 alphanumeric characters. **CONVERSIONS ONLY: The following information addresses conversions.** During the process of converting a database, the system checks for possible blank or duplicate employee numbers in the database. Results of this check display on the Administration group, Preference form. Open the form to display the Settings tab: • If the Enable unique & required Employee Number check box is selected and unavailable, all converted Person records have unique employee numbers. All future Person records must have a unique employee number before the record can be saved. • If the Enable unique & required Employee Number check box is NOT selected, this is an indication that duplicate or blank employee number records exist in the database. At this time, you have the option to choose one of two preferences: • Do nothing and continue to allow blank or duplicate employee numbers in Person records (the Enable unique & required Employee Number check box remains clear). OR • Set a control that requires all Person records to have an entry in the Employee number field. If you choose to require all Person records to have a unique employee number, select **Enable unique & required Employee Number**. 1. A message displays informing you: **The Employee number field on the Person form is required and unique. Once this is enabled, it cannot be changed back. Do you want to continue with this change?** Click **Yes**. 2. A second message displays: **Could not enable unique and required Employee number. Duplicates already exist or field is empty in the database. Refer to the Diagnostic Logfile.** 3. Navigate to the logfile. A message informs you that the system generated a text file and placed the file in the Logs folder of the application Server. Navigate to the Logs folder in the FCWnx installation folder. Locate the `DuplicateEmployeeNumbers.txt` file, consult the list of duplicate or blank employee numbers, locate those Person records, and assign a unique employee number to each. 4. When all records on the .txt file list have a unique employee number, return to the Preference form, select **Enable unique & required Employee Number**, and click **Save**. If you cannot save and again receive additional messages, you must repeat the steps above. 5. The selection to require all Person records to have a unique employee number cannot be reversed and all newly added Person records must have a unique employee number.
Personnel type	Select the appropriate personnel type from the drop-down list. This is a required field.
Department	Select the appropriate department from the drop-down list.

Table 151. Form fields (continued)

Element	Description
Trace activity	Select to enable this field if you want a record of all activity on this credential. Each time this credential is used, a message displays on the Activity Monitor and a record is written to the history database. If the system has a printer association, the message is printed. This field overrides the routing of activity as defined on the Reader form. **Note:** We do not recommend activating the trace function at a site that uses dial-up controllers. A controller dials the host whenever a traced credential is read. This may incur additional telephone costs.
Extended Unlock/Alarm Sense Time	Select to enable this field. This person is now allowed extra time to gain access to an entry or exit point in the system. A popup message asks you if you want to change all associated Credential records to follow Extended Unlock Time. If you select Yes, all credentials for that person are changed to Follow Extended Unlock Time, as configured on the Door Functions tab of the Reader form. Refer to *Door Functions tab on page 119*. **Example**: An extended time limit can be configured for an employee who enters a motorized door by wheelchair.
Privileged APB	***Note:*** *This selection applies to readers associated with ACU controllers.* Select this feature if you want to record APB without preventing this person from accessing doors. That is, enabling this field allows any valid credential to unlock a door regardless of the credential's status. However, the credential's status is still logged according to the reader used and is recorded as such in the credential history. **Example:** This 'privilege' may be appropriate for high-level company executives.
Conditional Unlock	Select to enable this feature if you want this person to have access to the facility although the facility may be locked due to a mode change or event that caused a normal schedule override, such as a plant closing for inclement weather. When this selection is enabled and saved, a message displays asking the user if this selection is to be applied to all credentials currently issued to this person.
Find and Assign Credential	Click to find the next credential presented to a selected reader. Select any active reader. If the credential is not in this application, you can add it. This is a convenient way to assign credentials.

How to

1. Review the guidelines in *Table 151* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Location tab

Use this tab to enter location information for this person. The fields accept 64 alphanumeric characters, making possible exceptionally lengthy street addresses or E-mail addresses.

Figure 111.Location tab

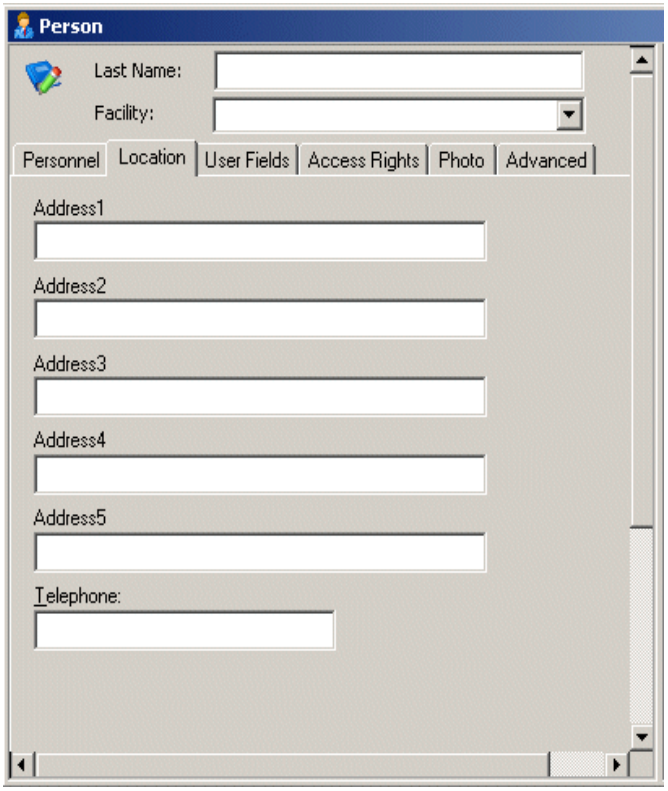


Table 152. Form fields

Element	Description
Address1/ Address2/ Address3/ Address4/ Address5	The labels of these five fields are defined on the Preference form.
Telephone	Enter the telephone number of this person. You may use up to 14 alphanumeric characters. There are no restrictions in format (whether you use hyphens, parentheses, or spaces). Enter in a format meaningful and understandable to your organization or application.

How to

1. Review the guidelines in *Table 152* and complete the fields on this tab.

   Note: Any fields can be used as an E-mail Address, but must first be designated as the E-mail address on the Preference form, as a User Field or Address Field entry.

2. Click **Save** before you exit this tab.

User Fields tab

Use this tab to enter user-defined information.

Figure 112.User Fields tab

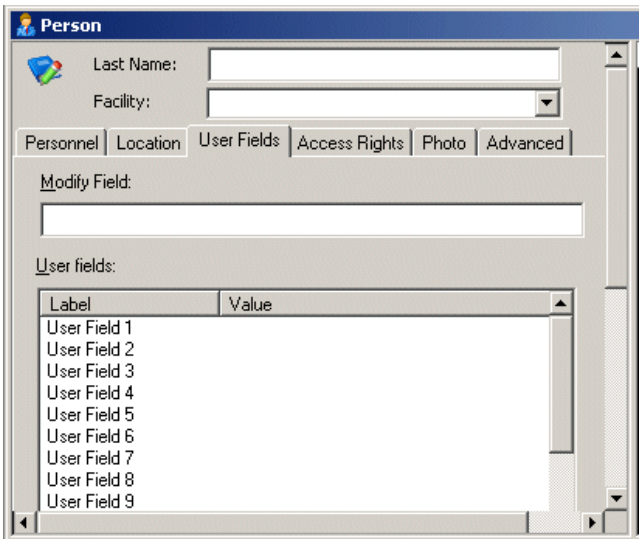


Table 153. Form fields

Element	Description
Modify Field	Enter the value for the currently selected User Field. This text box field accepts 32 alphanumeric characters. User Fields are not appropriate for exceptionally lengthy street addresses or E-mail addresses.
User Fields	The current user field Label and Value is listed in this windowpane. To give values to these fields, select a Label.

How to

1. Review the guidelines in *Table 153* and complete the fields on this tab.

   Example:

   The label for User Field 1 was previously defined on the Preference form as Social Security Number. The first label listed in this windowpane displays as Social Security Number. Enter the corresponding Social Security for this person record in the Modify Field text box.

2. Click **Save** before you exit this tab.

Access Rights tab

Use this tab to assign access rights to this person.

Figure 113.Access Rights tab

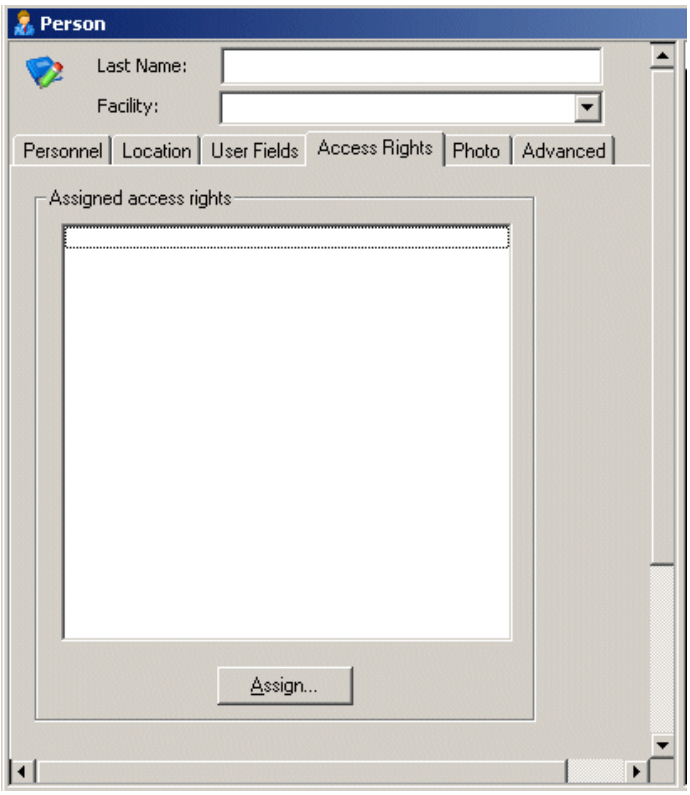


Table 154. Form fields

Element	Description
Assigned access rights	This windowpane lists any currently assigned access rights.
Assign	Click to display the Access Rights Assignment dialog box, enabling you to select the access rights you want to assign or unassign for this credentialholder. Select from the Available list those access rights you want to assign to this person. The access rights that display in this list are those that were previously set up on the Access Right form. Only access rights in the operator's' facilities are available for assignment by this operator. • Select, then click the right arrow to assign an available access right. • Select, then click the left arrow to unassign an access right.

How to

1. Review the guidelines in *Table 154* and complete the assignment on this tab.
2. Click **Save** before you exit this tab.

Photo tab

This tab allows you to capture images, assign credential design layouts, and print credentials.

Figure 114.Photo tab

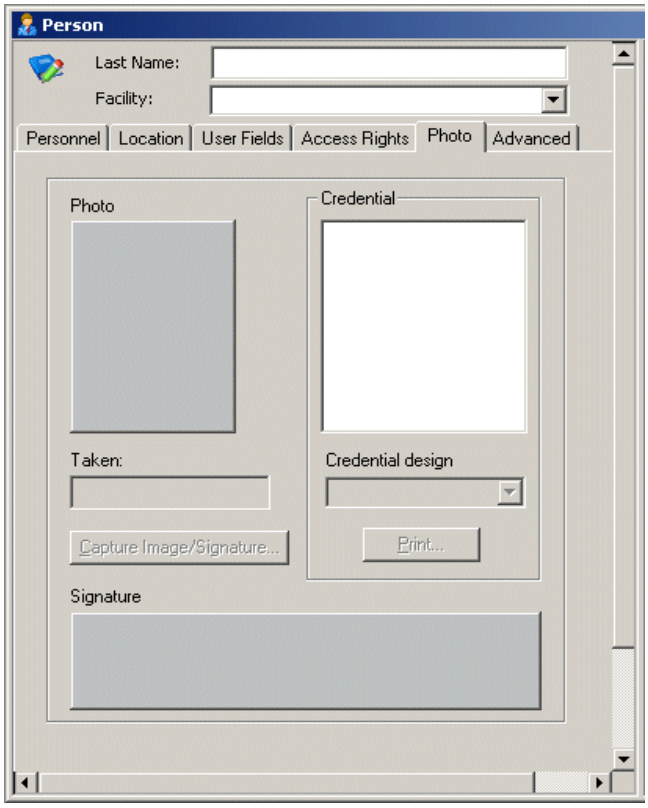


Table 155. Form fields

Element	Description
Photo	If there is a photo associated with this person record, it displays here.
Taken	Date this photo was captured.
Capture Image/Signature	Click to run the **Capture** program, allowing you to capture an image or signature of this person. Refer to *Image capture on page 256*.
Credential	Displays the Descriptions of credentials assigned to this person, as assigned on the Credential form. If a printer is configured for your system, you can select a credential to print.
Credential Design	Displays the name of the current credential design. Click the drop-down list to select a different credential design.
Print	If there is a printer configured for your system, click to print a credential for this person.
Signature	If there is a signature capture associated with this person record, it displays here.

How to

1. Review the guidelines in *Table 155* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Advanced tab

This tab applies to person records associated with ACU controllers. Areas assigned to this person record must be configured for keypad arm/disarm. This person is allowed to arm/disarm Areas using an IKE reader, designed for keypad arm/disarm.

Figure 115.Advanced tab

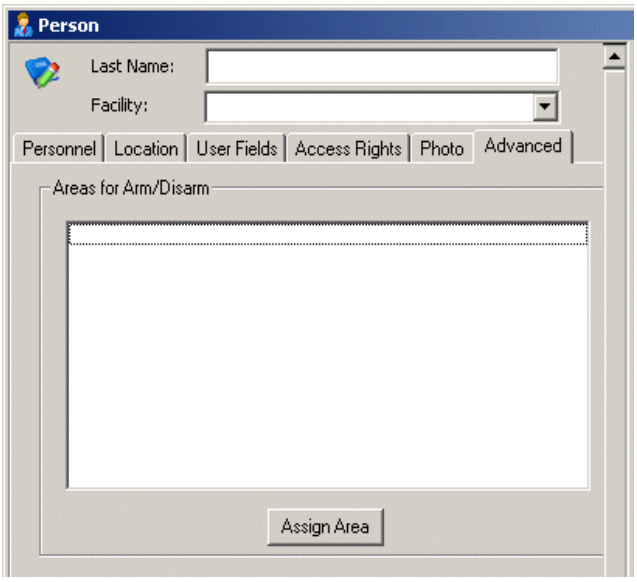


Table 156. Form fields

Element	Description
Areas for Arm/Disarm	This window displays a list of Areas that are assigned to this person.
Assign Areas	Click to display an Area Assignment dialog box, allowing you to select and assign Areas that this person can arm/disarm. The Area Assignment window displays when you click **Assign Areas**, enabling you to select and assign an Area association. Only Areas in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available Area. • Select, and then click the left arrow to unassign an Area. Click **OK** to accept the assignments and close the form.

How to

1. Review the guidelines in *Table 156* and complete the assignment on this tab.
2. Click **Save** before you exit this tab.

Image capture

Note: Your photographs and signatures can be created by digital cameras, video cameras, and signature pads. Support for certain Imaging features and functions may be product specific and not necessarily supported by all compatible peripherals.

Selecting an input device

Follow the instructions provided by the device manufacturer for installing an input device. Imaging can use any device that has a TWAIN, WINTAB, or Video for Windows (VFW) driver installed.

To select an input device

1. Go to the Personnel group and select **Person**. The Person form displays.
2. Select the **Photo** tab, then click **Search** to display a current list of records.
3. Select one of the records in the records list, then click **Capture Image/Signature**. The Image Capture Application screen displays.
4. Using the mouse, point to the photo area and right-click. A context menu displays.
5. Select **Input Device** from the context menu. A Select Profile window displays, listing the available input devices on your computer. By default, the input device loads from a file.
6. Select the input device you are using and click **OK**. The next time you capture a photo, the program uses the input device you selected.
7. Repeat these steps to set up an input device for signature pads. The program recognizes a separate input device for photos and signatures.

To select a record and capture a NEW image for the selected record

1. Select **Person** from the Personnel group.
2. Select the **Photo** tab on the Person form.
3. Select ONE of the records in the Record List.
4. Click **Capture Image/Signature** to capture a new image. Based on the input device you previously selected, the proper interface window displays for adjusting, capturing, and loading a new image.
5. Adjust, then **Save** the adjusted settings.
6. Click **Capture Photo** to capture the new image. Once the photo is taken, the Image Enhancement dialog box displays.
7. The dialog box that displays allows you to crop and enhance the newly captured image. You notice that a highlighting box with eight sizing handles is placed directly over the center of the Original Image.

8. Place your mouse pointer over the image. The pointer changes from a single arrow to a four-headed arrow. This allows you to move the cropping area across the newly acquired image.
9. At this point, you can either capture a different portion of the image ‘as is,’ or adjust the highlighting box to capture some or all of the image.

Note: Refer to the Image Capture Application Help system for additional specific details of this application.

To crop an image

1. Place your mouse pointer within the highlighting box’s cropping area.
2. Press and hold down your left mouse button, and drag (move) the cropping area to the desired location on the image. Release the left mouse button when you are satisfied with the new location of the highlighting box.
3. Click **OK**. The photo can be placed on either the front or the back of your credential design. To print the photo, your credential design must include photo image keylines. When you print the credential from the application, the keylines are replaced by the image.

To resize the crop box

1. Place your mouse pointer directly over one of the highlighting box handles. The pointer changes from a four-headed arrow to a two-headed arrow. This allows you to resize the cropping area.
2. Press and hold down your left mouse button, and drag (move) the handle toward the center of the cropping area. The size of this highlighting box is fixed to the aspect ratio of the image type: 4 x 5 for photos; 5 x 1 for signatures.
3. When the cropping area is sized to your satisfaction, move the highlighting box so that it covers the portion of the image that you want to capture.
4. Click **OK**. The Image Capture Application screen displays with the selected image in place. To print the photo, your credential design must include photo image keylines. When you print the credential from the application, the keylines are replaced by the image. The photo can be placed on either the front or the back of your credential design.
5. Click **OK**. The selected image is moved to the Photo tab of the Person form.
6. Click **Save**. The image capture is saved to the database.

Displaying existing images

During normal operations, images are not downloaded from the server. In order to view an existing image for a credential record, the image(s) must be loaded to the computer.

1. On the Person form, select the **Photo** tab, then click **Search**, and highlight a record from the record list.
2. Click **Capture Image/Signature** button to enable the Image Capture Application screen.
3. Move the mouse pointer to the existing image and right-click. A shortcut menu for the image appears. The available image options on that menu are discussed in the paragraphs that follow.

Capture

Based on the input device you previously selected, the appropriate interface window displays for adjusting, capturing and loading a new image.

Enhance and Crop

These options allow you to individually crop or enhance the current image. You can adjust the existing image without having to recapture the image.

Compare (and Restore)

When a stored image is downloaded and a new image is captured, the Compare option is enabled on the shortcut menu to compare the newly captured or edited image to the original image. Choosing **Restore** undoes any changes made to the original image.

Clear

When you select the Clear option from the shortcut menu, the image is cleared and the image file is deleted. (The image cannot be recovered.)

Enhancement Shortcut Menu

There are four submenus for the Enhancement shortcut menu option.

Adjust by Example

When you select this option, a dialog box displays. You can adjust the brightness, contrast, focus, exposure, and red, green, and blue colors.

Special Effect by Example

This dialog box allows you to add special effects to any image. The applicable effects are Mosaic, Impressionist, Watercolor, Emboss, and Posterize.

Remove Red Eye

This dialog box allows you to remove the red eye effect of any person in an image.

Vignette

The Vignette dialog box allows you to configure a vignette effect to any image.

Manipulation Shortcut Menu

Mirroring

Flip Vertically: Flip an image from top to bottom.

Flip Horizontally: Flip an image from left to right.

Invert (negative)

Select this option to invert an image (create a color negative).

Convert to 8-bit grayscale

Select this option to convert an image to an 8-bit 256-grayscale image. Once this option is selected, there is no undo. You have to reload your image.

Save Image

Changes to an existing image or newly captured image are saved to the host when you click **Save**.

Export To File

When you select this option, a Save As window displays. Navigate to the Images folder that contains previously captured photo images. You may select a filename, image format, bit depth, and JPEG compression factor. When you click **Save**, the contents of the image control are saved using the selected settings. If you want, you can replace an existing image.

Select Input Device

This option allows you to select an input device on the Select Profile dialog box, from a list of Capture Profiles. You may also set and apply automatic properties for the image you are about to capture.

Select Image Type

This dialog box enables you to configure image types in the EPISUITE SDK configuration database. You can use this dialog box to edit, create, or remove image types. To modify an image type, highlight the image type name in the list and click **Edit** to open the Image Type Manager dialog box. Click **Add** to create a new image type, or click **Remove** to delete the highlighted image type.

Revert Changes

When you make any change to the image, the Revert Changes option is enabled. Otherwise, the option is dimmed and you are not able to select it. Selecting this option reloads the original image.

Design credentials

Complete the Credential Design form, Credentials group, to create credential designs. Credential designs are the graphics printed on credentials. You may want to use different graphics for different types of personnel, such as a specific graphic for regular employees and a different graphic for contract employees within your organization.

Note: The Credential Design application has an extensive Help system to assist in designing your credential layout, import graphics, link designs to credentialholder information, and add barcodes or encode magnetic stripes.

This section is an abridged summary of the credential design process.

To create your own credential design:

1. Select **Credential Design** from the Credentials group. The Credential Design form, Design tab displays.
2. Click **Add** and enter a unique Description, then click **Save**. The Edit Credential Design button is now enabled.
3. Click **Edit Credential Design** to run the Credential Design application.
4. Select **New** from the Imaging File menu.
5. Draw a shape in your design window the size of your credential.
6. For a background color, select **Edit**, **Background**, then select a color from the Color dialog that displays.
7. Add one or several bitmaps inside the credential design preferences.
8. Add one or several text boxes.
9. Move or resize the photo and text as desired.

10. Click **Save**.

Credential design form

Complete the Credential Design form, Credentials group, to create credential designs. Credential designs are the graphics printed on credentials. You may want to use different graphics for different types of personnel, such as a specific graphic for regular employees and a different graphic for contract employees within your organization.

Table 157. Form fields

Element	Description
Description	This field is required and accepts up to 64 characters. Enter a unique or suggestive description for this credential design. During installation of Credential Designer, four standard credential designs are included, in the Designs folder of this application: • Landscape • Portrait • No Design • Wanted Poster Do one of the following:· • Select from the list of existing standard design records. • Select and edit a standard design by renaming and saving. • Create a new design. **Note:** When you add a design, enter a description and click **Save** to enable the **Edit Credential Design** button on this form.
Facility	Assign a facility option from the drop-down list of available facilities for assignment by this operator. If you do not select a facility, Ignore Facilities is assigned for you.

Design tab

Use this tab to create a new credential design record. If you are editing an existing design, these options are not available.

Figure 116.Design tab

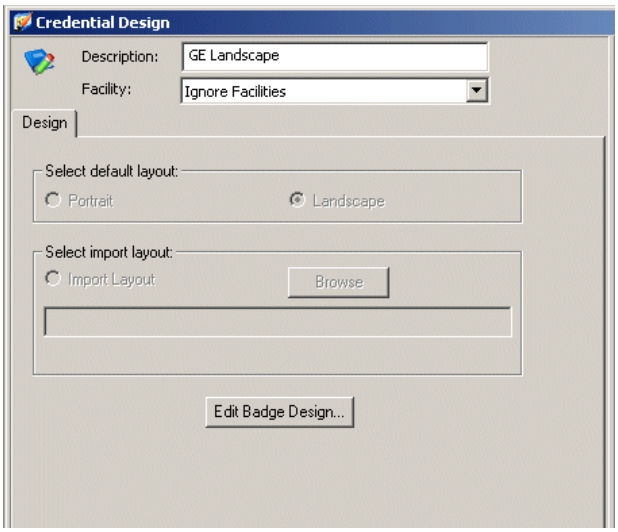


Table 158. Form fields

Element	Description
Select one of the following:	
Select Default Layout	Select a credential default layout as Portrait or Landscape.
Select Import Layout	Select to make available the option to Browse to the designs folder and import an existing design. If you have already chosen a default layout, this option is unavailable.
Save	Click to enable the **Edit Credential Design** button.
Edit Credential Design	Click to open the credential designer program that allows you to draw the graphics that comprise the credential design. If you had a previous version of credential designer that created files with a `.gdr` extension, you are prompted to save the file as a **`.dgn`** when you edit a credential design for the first time. Access the extensive Online Help system from the Credential Designer toolbar. Additionally, refer to the ***Credential Designer User Manual***, and review the "What's New" section. A *PDF* file of the manual is provided on your documentation CD.

How to

1. Review the guidelines in *Table 158* and complete the fields on this tab.
   - Each workstation where credential design or credential printing is to be performed must have its own license. Refer to your *Installation Manual* for additional details.
   - If Imaging Status is not enabled for this client workstation, this feature is unavailable.
2. Click **Save** before you exit this tab.

Installing print driver

To install the print driver for your credential printer:

1. Follow the instructions shipped with your printer.
2. Select the appropriate printer port.
3. Select a name for the printer and indicate if it is the default printer.
4. Do not print a test page; click **Finish**.
5. After the installation is complete, move the mouse pointer over the printer icon, click the right mouse button, and select and set Properties.
6. Complete the printer setup and then click **Exit**.

Note: The printer may NOT support transparent bitmaps.

If the printer runs out of credentials or the ribbon needs to be replaced while in the process of producing credentials, an error message displays. Correct the condition at the printer and then put the printer back online before continuing with your print job.

Define credentials

The Credential form, Credentials group, is used to define a credential by entering specific information, such as the credential number and the person to whom this credential is assigned. A credential identifies a person to this application. This is usually a credential with an embedded number that uniquely identifies the credential. However, the credential does not have to be a card; it could be a unique number that is entered into a keypad reader.

Table 159. Form fields

Element	Description
Search	Click **Search** to display a list of previously created credential records to review or modify. It is possible to change the status of all credentials for the same person using the *mass update* feature. All records for a selected person can be assigned the identical status. **Note:** A suspended credential that has 'Enable Line Coloring for Suspended Credentials' enabled on the Preference form displays in red font in the list box on the right.
Description	Enter a unique description of the credential, person name, or credential type. This is a required field and this record does not save without an entry in this dialog box. If you attempt to save a record without a description, a dialog box displays, asking if you want to use the credential identification number as the Description. Click **Yes** to use the credential identification number or return to the form and enter a Description of your choice. (If you are entering credential records before person assignment, consider entering a credential identification number as the Description.) This dialog box accepts up to 64 alphanumeric characters. **Note:** If this is a converted database from an earlier version of this software that allowed blank Description fields, the credential identification number now displays in the Description field of those records.
Facility	The facility assignment is a read-only field.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Credential Definition tab

Use this tab to define a credential.

Figure 117.Credential Definition tab

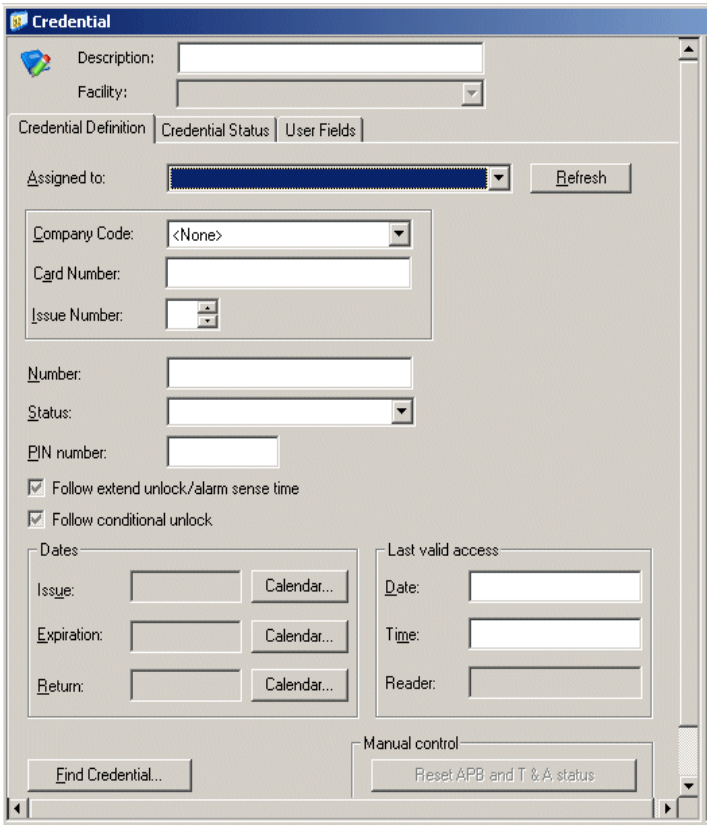


Table 160. Form fields

Element	Description
Assigned to	Select the name of the person to whom this credential is assigned. If this credential is not yet assigned, select <UNASSIGNED>. **Refresh**: Click to update the person list with the most up-to-date information. It is possible to select all credentials for this person, assign a status, right-click to display the shortcut menu, and select *mass update*. All records for the selected person are now assigned the identical status.

Table 160. Form fields (continued)

Element	Description
The following three fields relate to systems with ACU controllers:	
Company Code	Select **None** or select from the drop-down list of available company codes as previously assigned on the ***Advanced tab*** of the Preference form. **Note:** When you select a company code number, the Card Number and Issue Number fields become available.
Card Number	This field is available for input when a company code number has been selected. This number must be unique to this application. It may be already encoded into the card (if you are using a card) or you can assign a number in this dialog box. This number is entered into a keypad reader when there is no card.
Issue Number	This field is available for input when a company code number has been selected. This feature refers to magnetic stripe cards. Enter or select a number that indicates the number of times that this card number has been issued to the credential holder. A card may be re-issued if the card is damaged, reported lost, or stolen. The original issue of this card begins with 00. A card can be issued up to 99 times.
Number	This number must be unique to this application. It may be already encoded into the card (if you are using a card) or you can assign a number in this dialog box. This number is entered into a keypad reader when there is no card. **If you are using credential aliasing**: The alias displays here as a read-only number and cannot be changed. An alias number is assigned on the Credential Alias form. Refer to *Define credential alias on page 270*. The encoded number is entered into a keypad reader. **Example (if using a company code)**: `00670010xxxxxxxxxx01` where • The first four digits indicate your company number (67) with preceding zeros (0067). • The second set of four digits indicates your company site number (10) with preceding zeros (0010). • The third set of digits is the unique card number (xxxxxxxxxx). • The fourth set of digits is the number of times that this card has been issued to the credential holder (01).
Status	**Note:** Active credentials are granted access through readers. You can create a custom status description to display on the Activity Monitor using the Custom Credential Status form. Refer to *Create custom credential status on page 271*. **Active**: The credential has been assigned to a person and may gain access. An Active credential can be re-assigned as a Guard Tour credential. **Guard Tour**: The credential has been assigned to a person and is used as a guard tour credential. A Guard Tour credential can be re-assigned as an Active credential. **Issuable**: The credential has not yet been assigned to a person (or deactivated). **Lost**: The credential has been reported as lost (or stolen). **Remake**: This credential has been damaged or returned. **Suspended**: This credential was assigned to a person who no longer works at the facility (terminated) or is currently not working at the facility. **Note:** A suspended credential that has 'Enable Line Coloring for Suspended Credentials' enabled on the Preference form displays in red font in the list box on the right.

Table 160. Form fields (continued)

Element	Description
PIN Number	If this credential is used with a credential-and-keypad reader, assign a personal identification number here. This number must be entered at the keypad in order to gain access with this credential. If Hide PIN Number is selected on the Security tab, Preference form, asterisks display in place of numbers in this field. **Note:** For systems using Micro controllers, this number must be four digits. For systems using ACU controllers, this number can be 4 to 6 digits, depending on the references set on the Advanced tab of the Preference form. Use preceding zeros if necessary to create the appropriate number of digits.
Follow Extend/Alarm Sense Time	• Select this option to enforce 'Extend/Alarm Sense Time' for this credential record. If you assigned this credential to a person from the 'Assigned to' drop-down list, this person is now allowed extra time to gain access to an entry or exit point in the system. Time limitations are configured on the Door Functions tab of the Reader form. • If this credential is being assigned to a person whose existing record indicates that Extend/Alarm Sense Time is enforced, this check box displays as already selected. **Example**: An extended time limit beyond normal can be configured for an employee who enters a motorized door by wheelchair or any individual that requires additional time to pass through a doorway.
Follow Conditional Unlock	This option configures this credential to follow the conditional unlock configuration of the Person form. If this is a new credential, you must manually select this option. Select to enable this feature if you are allowing this credential to access the facility although the facility may be locked due to a mode change or event that caused a normal schedule override, such as a plant closing for inclement weather.
Dates	Click *calendar* to select a date: **Issue**: The date the credential was assigned and issued to a person. **Expiration**: The first date on which the credential no longer grants access. A blank value means the credential never expires. **Return**: The date the credential was returned.
Last Valid Access	**Date**: Date the last valid access was granted to the credential, as stored in the database. **Time**: Time the last valid access was granted to the credential, as stored in the database. **Reader**: Reader at which the last valid access was granted to the credential, as stored in the database. **Area:** ***(displays only on systems with ACU controllers)*** Area where last valid access was granted to the credential. This is a read-only field.
Manual Control: Reset APB and T&A Status	**Note:** This option is not available for credentials when associated with an ACU controller. Resets the APB or T&A status of the current credential to neutral.
Find Credential	Click to display a Find Credential dialog box, select a reader, and present a credential at that reader. The record displays that is associated with the credential presented. Select a reader from the drop-down list of the Find Credential dialog box, present a credential at that reader, and this form displays the record that is associated with the credential presented. If a record is not currently in this application, you can add it. This is a convenient way of finding the credential record for a card without searching all records.

How to

1. Review the guidelines in *Table 160* and complete the fields on this tab.
2. Also see *Mass update on page 268* for simultaneously updating properties on a group of records within this application.
3. Click **Save** before you exit this tab.

Status tab

A credential record must be selected in order to enable this tab. This windowpane provides an immediate status of the selected credential according to the information in the controller database.

Note: This is a diagnostic tool. The status displayed here is verification that a credential modification has actually taken place in the database, according to a change in the Status as modified on the Credential Definition tab.

Figure 118.Credential status tab

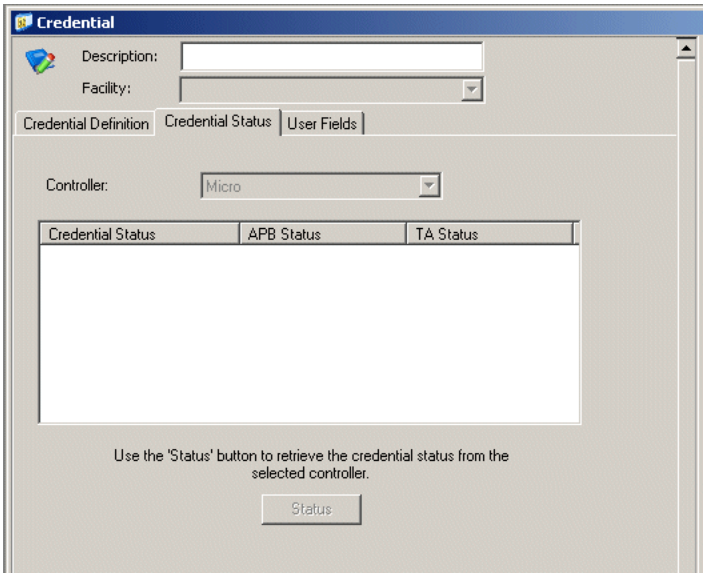


Table 161. Form fields

Element	Description
Controller	Select a controller from the drop-down list of available controllers in facilities assigned to this operator, and then click **Status**. The selected controller must be online in order to display a Status windowpane conveying information about the selected credential.
Credential Status	Displays the current status according to the controller database. **Note:** A suspended credential that has 'Enable Line Coloring for Suspended Credentials' enabled on the Preference form displays in red font in the list box on the right.
APB Status	Displays the current Anti-Passback status.

Table 161. Form fields (continued)

Element	Description
TA Status	Displays the current Time and Attendance status.
Status	Click to refresh or update changes that occurred since the last Status request.

How to

1. Review the guidelines in *Table 161* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

User Fields tab

Use this tab to enter user-defined information for the Credential form record selected in the right windowpane.

Figure 119.User Fields tab

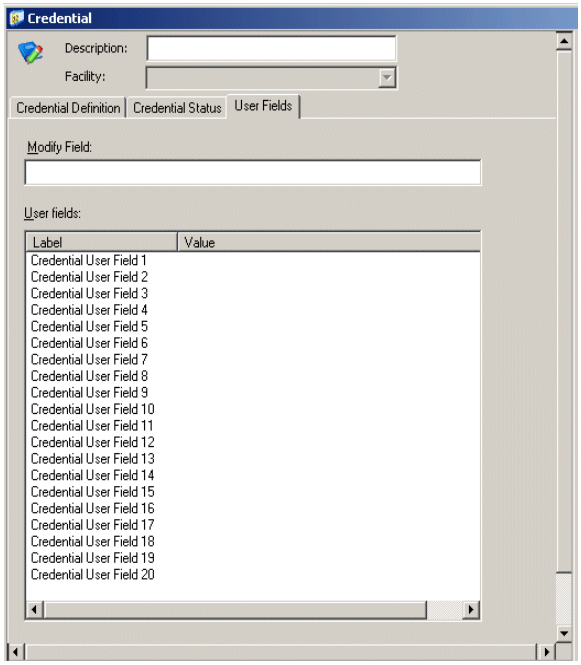


Table 162. Form fields

Element	Description
Modify Field	To give value to one of the fields, select a Label in the User Fields windowpane. Enter the value that you want to display, corresponding to this label. This text box field accepts 32 alphanumeric characters.
User Field	The existing list of labels and their values is listed in the User Fields windowpane. The selected label in the User Field windowpane is the label to which you are assigning a value.

How to

1. Review the guidelines in *Table 162* and complete the fields on this tab.

   Example:

   The Credential User Field 1 was previously defined and labeled on the Preference form as Condition of Credential. The first label listed here, in the User Fields windowpane, displays as Condition of Credential. Select Condition of Credential. In the Modify Field dialog box, enter the corresponding condition of this credential as `Reported Lost by Credentialholder`.

2. Click **Save** before you exit this tab.

Mass update

Note: Forms where Mass Update is applicable include the Person form and the Credential form.

This option is not available until at least one record exists in the list box to the right of the form. The Mass Update mode allows you to simultaneously update properties on a group of records within the application. This is very helpful when a number of records for a single form require the identical property or value change.

Mass Update mode of processing is enabled as follows:

1. Open a blank form.
2. Click **Search** to display a list of existing records. We recommend entering search criteria to narrow your search results to only records that are to be updated. Records that match your search criteria display in the list box to the right of the form.

   Note: If there are no records, Mass Update is not available.

3. Move the mouse pointer below any of the tabs and right-click to display a shortcut menu to related forms. To enable the Mass Update mode, select Mass Update from the shortcut menu.
4. Note the change in the appearance of the form. ONLY those fields or dialog boxes that are available for mass update changes are now enabled and blank. Refer to *Conditions of mass update on page 269*.
5. Select the records you want to adjust from the list box on the right. Typical Microsoft Windows selection/deselection process is used in this application
6. Make the required adjustment to the form.
7. Click **Save**. The update of records begins immediately. A window displays with a progress bar, indicating the update progress.
8. Click **Abort** if you want to stop the update in progress.
   - You cannot close a form during the Mass Update process.

   Note: Right-click shortcut menu navigation is unavailable when you are in Mass Update mode.

   - If you have changed any preference but did not click Save, a message reminds you to discard or save your changes.
   - Smaller batch updates are recommended to prevent performance issues during a mass update.

- A Mass Update Complete dialog box displays, indicating completion or failure.

Note: When mass updates are processed to an access right, a log file is generated and a View Results key displays in the dialog box. Click to view the completion log. We recommend that you rename and save this file to another location for reference purposes. Renaming the log prevents an overwrite. The questionable log is available for Customer Support to review and locate discrepancies. Be aware that this log file is automatically overwritten every 7 days, in order to prevent unnecessary data that would accumulate on your hard drive.

9. When the process is complete, a Mass Update Complete dialog message displays.
10. Right-click and select Mass Update from the shortcut menu to disable and exit Mass Update mode. The records refresh at this point.
11. Updates display in the list box to the right.

Conditions of mass update

Note: The time to process a mass update depends on your system performance, number, and type of updates. Specifically, the credential learn and alarm processing functions may be influenced. We recommend that you schedule mass update processing during off-peak hours for your company.

- GE Security has set 200 as the default maximum number of records that can process updates at one time. However, this number is configurable. Call GE Security Customer Support for assistance if you want to reconfigure the default.
- ONLY those fields or dialog boxes that are available for mass update changes are enabled in Mass Update mode.
- Navigating from any form to another form in Mass Update mode takes that form out of Mass Update mode.

Person Form:

- The following fields are available for mass update: Facility, Personnel Type, Department, and Access Rights. (See *Define persons on page 247*.)

Credential Form:

- The following fields are available for mass update: Assign To, Status, Dates - Issue, Dates - Expiration, and Dates - Return. (See *Define credentials on page 262*.)
- When changing an assigned credential to unassigned, the status automatically changes to Issuable.
- When changing status to Issuable, a message displays a Yes or No option. If Yes, the status automatically changes to Issuable and selected credentials are unassigned.
- When changing an unassigned credential (status is Issuable) to an assigned person, the status changes to Active.
- Records selected for mass update with a status changing to anything other than Issuable causes a check for credential assignment.
- If any credential in the mass update selection is not currently assigned, these credential records become unavailable and a message displays indicating they are unavailable.

Define credential alias

Note: This form is available only if aliasing option was selected during initial Server installation.

Use the Credential Alias form, Credentials group, to control the alias numbers that display in place of the encoded credential number. An alias is a number that represents the encoded credential number. You decided whether to use credential alias and which method during installation of this application. If you chose **None**, this form is unavailable in the application.

Credential alias provides added security in that the encoded number is displayed only to authorized users. The encoded credential number is hidden on the Credential form, reports, and Activity Monitor form.

Table 163. Form fields

Element	Description
There are two methods of using credential alias:	
Manual	Enter the credential alias number on this form.
Automatic	The credential alias number is chosen for you.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Credential Alias tab

Use this tab to assign alias numbers to credential encoded numbers.

Figure 120.Credential alias tab

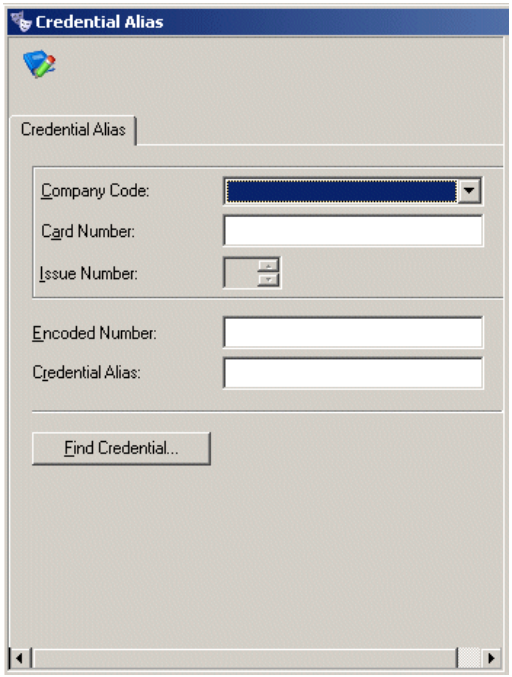


Table 164. Form fields

Element	Description
The following three fields are for systems with ACU controllers.	
Company Code	Select None or select from the drop-down list of available company codes as previously assigned on the Advanced tab of the Preference form. **Note:** When you select a company code number, the Card Number and Issue Number fields become available.
Card Number	This field is available for input when a company code number has been selected.This number must be unique to this application. It may be already encoded into the card (if you are using a card) or you can assign a number in this dialog box. This number is entered into a keypad reader when there is no card.
Issue Number	This field is available for input when a company code number has been selected. This feature refers to magnetic stripe cards. Enter or select a number that indicates the number of times that this card number has been issued to the credential holder. A card may be re-issued if the card is damaged, reported lost, or stolen. The original issue of this card begins with 00. A card can be issued up to 99 times.
Encoded number	Displays the credential's encoded number.
Credential Alias	• If you selected Manual aliasing during installation, enter the new number for the credential. • If you selected Automatic aliasing during installation, the number are entered for you.
Find Credential	Click to display a Find Credential dialog box, select a reader, and present a credential at that reader. The record is displayed that is associated with the credential presented.
Save	Click to save this record.

How to

1. Review the guidelines in *Table 164* and complete the fields on this tab.
   - Alias credential numbers saved to the system are automatically preceded with a ‘1-’ if this is the first Region; ‘2-’ if this is the second Region; and so on.
   - If this is a Global configuration, the credential alias number is preceded by the Region ID number that uniquely identifies the Region. Therefore, the same alias number can be assigned across regions, because the number is uniquely identified by the Region ID.
2. Click **Save** before you exit this tab.

Create custom credential status

The Custom Credential Status form, Credentials group, allows you to create custom credential status definitions that more closely describe active (valid) or suspended (invalid) credential transactions. When assigning a credential, this status displays in the drop-down list of the Credential Definition tab, Credential form. When the credential is swiped, this custom status displays on the Activity Monitor and the credential status displays in reports.

Example 1: An employee is suspended for a week pending investigation following a disagreement with a Manager. The credential is assigned a status of Suspended. A custom credential definition 'One Week Suspension' was created and assigned to this credential. During the week, the employee attempts to enter the building. The credential holder presents the credential at a reader. The transaction displays on the Activity Monitor as 'One Week Suspension.' Access is denied.

Example 2: An employee is working in your facility as a temporary contract worker, performing maintenance. The credential is assigned a status of Active. A custom credential definition 'Maintenance Contractor' was created and assigned. The transaction displays on the Activity Monitor as 'Maintenance Contractor.' Access is granted only for the duration of the contract.

Figure 121.Custom Credential Status form

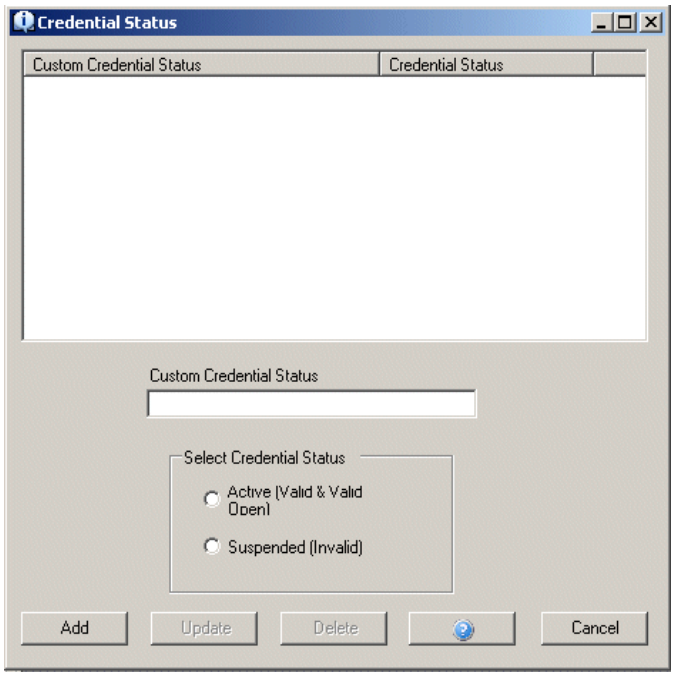


Table 165. Form fields

Element	Description
Custom Credential Status List Box	A display of previously created custom credential status definitions. When you select a definition in the list box, the selected definition displays in the Edit box. The selected definition can be updated or deleted.
Custom Credential Status	Create or revise an existing custom credential status definition by entering text in this text box. Following a revision, click **Update** to complete the process.

Table 165. Form fields (continued)

Element	Description
Select Credential Status	**Active (Valid, Valid Open)**: Select to assign an active status to this credential definition. A Valid only status does not allow the door to open. **Suspended:** Select to assign a suspended status to this credential. This credential does not grant access. The Activity Monitor displays the user-defined custom credential format in the Activity Type column. **Example**: 1. On the Custom Credential Status form, a status of **Pregnancy leave** is created and assigned a Status of **Suspended**. 2. Jane Doe goes on leave and her credential is assigned a Status of **Pregnancy leave**, as selected from the Credential form, Status drop-down list. 3. While on leave, Jane swipes her badge at a valid reader. Access is denied. 4. The Activity Monitor, Activity Type column displays a message of **Pregnancy leave**.
Add	Click to add to the list box following creation of a new definition.
Update	Click to update a definition.
Delete	Click to delete a selected credential status definition from the list. You are not able to delete a credential status that is currently assigned to a credential.
Help	Click to access the online Help system.
Cancel	Click to close this form without making any changes.

How to

1. Review the guidelines in *Table 165* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Create credential formats

Note: If you experience difficulty with this form, contact GE Customer Support for assistance.

The Credential Format form, Credentials group, allows an operator to do the following:

- Import or export custom credential records in a Wiegand or magnetic stripe format, into the controllers on your system.
- Identify the pattern of data bits (mask) of the credential numbers that you are importing or exporting to your system.
- Store standard custom credential format in the database for this application.
- Interpret data from credentials presented at a Wiegand or magnetic stripe reader.

Table 166. Form fields

Element	Description
Search	Display or change an existing record.

Table 166. Form fields

Element	Description
Add	Configure a new Credential Format record. Default values display for you.
Delete	Delete a selected Credential Format record from the list in the windowpane on the right, that is no longer required or applicable.
Description	Enter a unique or suggestive description for this credential format. The field accepts 1 to 64 characters. **Example**: 33 Bit Indala
Facility	Assign a facility option from the drop-down list of available facilities for assignment by this operator. If you do not select a facility, Ignore Facilities is assigned for you.
Credential Format Tab	Configure the specific mask of this custom credential format. You cannot save this record until you have completed the entries on this tab.

Credential format tab

This tab allows you to identify the pattern of the data bits (mask) combination, in the credential numbers that you import or export to your controller and store in the database for this application.

Figure 122.Credential format tab

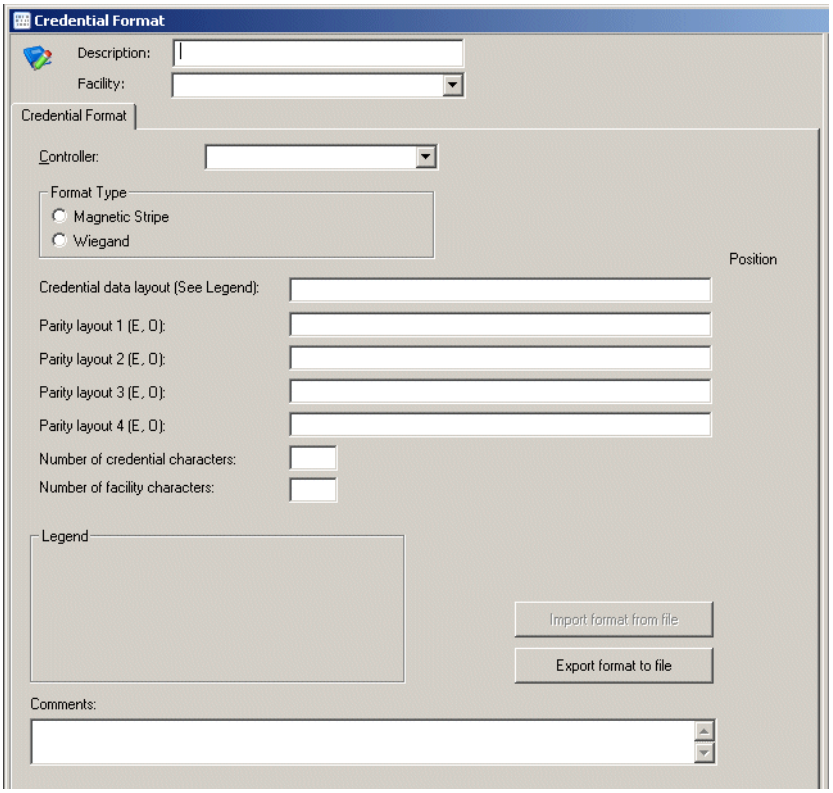


Table 167. Form fields

Element	Description
Controller	Select the controller type from the drop-down menu as a Micro controller or ACU controller.
Format Type	Select from two data masks. **Magnetic Stripe**: The number is a mask embedded into a magnetic tape strip and usually adhered to credentials or credit cards. **Wiegand**: A pulse-generating mask sensed by a pickup coil (the reader). This is a complex system to manufacture and virtually impossible to duplicate making it one of the most secure access control technologies. The number is a mask of a digital 0 or 1.
Position	Indicates the location or position of the bit where your mouse pointer is presently positioned, in the mask combination.
Credential data layout (B, C, I)	The following characters are acceptable. Also refer to the Legend group box: **Micro Magnetic Stripe**: N = credential or facility/site bit B = Start character (With few exceptions, the start character is 'B' the majority of the time. 0 to 9, A, C, D, E = Constant characters = Space **Micro Wiegand**: B = Credential identification (BID) bit F = Facility/Site Code P = Parity 0 or 1 = Constant Characters E = Parity Layout - Even O = Parity Layout - Odd X = Space **ACU Magnetic Strip**: N = Credential identification (BID) bit C = Company Code S = Site Code I = Issue Code X = Space **ACU Wiegand**: B = Credential identification (BID) bit C = Company Code S = Site Code I = Issue Code P = Parity Layout X = Space
The following settings apply to Micro Wiegand Format ONLY. These fields are not available for ACU Wiegand controllers. Parity checking is an error detection technique that tests the integrity of digital data within the computer system or over a network. Parity checking uses an extra bit that holds a '0' or '1' depending on the data content of the byte. Each time a byte is transferred or transmitted, the parity bit is tested. Even parity systems make the parity bit 1 when there is an even number of 1 bits in the byte. Odd parity systems make it 1 when there is an odd number of 1 bits.	
Parity layout 1 (E,O)	Indicates the first parity bit in the data mask. The entry must be an Even (E) or Odd (O) parity bit.

Table 167. Form fields (continued)

Element	Description
Parity layout 2 (E, O)	Indicates the second parity bit in the data mask. The entry must be an Even (E) or Odd (O) parity bit.
Parity layout 3 (E, O)	Indicates the third parity bit in the data mask. The entry must be an Even (E) or Odd (O) parity bit.
Parity layout 4 (E, O)	Indicates the fourth parity bit in the data mask. The entry must be an Even (E) or Odd (O) parity bit.
Number of facility characters	The number of facility code bits in the data mask.
Numbers of credential characters	The number of credential number (BID) bits in the data mask.
The following applies to all formats:	
Import format from file	This selection is enabled when you click **New** to add a new record. Click to navigate to a network drive, CD, diskette, or a local drive of your computer and import a Wiegand or magnetic stripe file. (**Example Wiegand File Name**: ***.**wgd)
Export format to file	Click to navigate to a network drive, CD, diskette, or local drive of your computer and export a Wiegand or magnetic stripe file.
Comments	Use this field to enter any special consideration or reminder for this configuration. This field accepts 256 characters. It is not necessary to complete an entry in this field.

How to

1. Review the guidelines in *Table 167* and complete the fields on this tab.

   Also, refer to:

   - *Controller flash and controller preference configuration on page 110*
   - *Credential formats in 40-bit and 55-bit Wiegand protocol* in the following section.
2. Click **Save** before you exit this tab.

Credential formats in 40-bit and 55-bit Wiegand protocol

4002 - 40-bit Wiegand format

The 40 bits of transmission consist of two parity bits and 38 code bits. The first bit transmitted is the first parity bit, P1; it is even parity calculated over the first 20 bits. The last bit transmitted is the second parity bit, P2; it is odd parity calculated over the total 40 bits.

Code format:

F = Facility - 0 Digits

B = Credential Number (99.999.999.999 possible) 12 digits

Note: This format was created to enable identical credential identification numbers to be produced in either S-F/2F or Wiegand mode. These numbers are derived from the 40-bit binary code in the proximity chip. The credential number is comprised of the 38 least significant bits. The most significant bit is set at 0.

5502 - 55-bit wiegand format

The 55 bits of transmission consist of two parity bits and 53 code bits. The first bit transmitted is the first parity bit, P1; it is even parity calculated over the first 27 bits. The last bit transmitted is the second parity bit, P2; it is odd parity calculated over the total 55 bits.

Code format:

F = Facility - 0 digits
B = Credential Number - 16 digits
P = Parity Bit

What's next?

If applicable to your system, continue with *Chapter 8, Guard tours on page 279*.

Chapter 8 Guard tours

This chapter provides an overview when configuring your facility for Guard Tours. Complete the steps as presented.

In this chapter:

Overview 280
Define Guard Tours 280
Define tours points 283
What's next? 285

Overview

Note: ***This feature is enabled for systems licensed and configured with Micro controllers.***

A Guard Tour is an inspection of your facility premises, made by a security officer at random intervals. The officer stops at pre-determined tour points along the way, where a credential must be presented to a reader or hit a DI point, so that the system can track the tour progress. Each time the officer presents a credential to a reader, a tour point is 'hit.'

Define Guard Tours

This feature is enabled for systems licensed and configured with Micro controllers.

Note: The Guard Tour form, Guard Tours group, is enabled if you are licensed for Guard Tour. Also, see the Manual Control form, *Guard tour tab on page 322*.

Conditions of the Guard Tour feature:

- Tour Point form must be configured before a Guard Tour record is configured. Refer to *Define tours points on page 283*.
- A Guard Tour must be configured before a physical tour can begin.
- All tour points must be associated with controllers within the same Region. Refer to *Global configuration regional rules on page 44*.
- Tour points can be both readers and DIs.
- The same credential must complete the entire tour. A credential can only be assigned to one tour at a time.
- The credential read does not grant access or cause an invalid alarm.
- Double-hit points by the tour credential along the tour result in invalid tour transactions.
- A tour begins when the Start Point is 'hit' or manually started by the operator at a computer running this application.
- A tour ends when all points assigned to the tour are 'hit,' or at the expiration of the time assigned for the duration of the tour. Also, a tour can be ended manually, by the operator at a computer running this application.
- An alarm is generated if a tour is not completed within the assigned maximum tour time.
- Credential transactions are stored in credential history and available to generate reports.
- DI tour points are assigned to only one tour.
- Credentials must be assigned to a tour in order to be a tour credential.

Table 168. Form fields

Element	Description
Delete	Delete a selected Guard Tour record from the list in the windowpane on the right, that is no longer required or applicable. The associated alarm record for this Guard Tour is simultaneously deleted. If a tour is in progress, this record cannot be deleted or edited. Refer to the Activity Monitor or the Guard Tour tab of the Manual Control form for tour status.

Table 168. Form fields (continued)

Element	Description
Description	Enter a unique or suggestive description for this tour. The field accepts 1 to 64 characters.
Facility	Assign a facility option from the drop-down list of available facilities for assignment by this operator. If you do not select a facility, Ignore Facilities is assigned for you.
Guard Tour Tab	Configure the specifics of this tour. You cannot save this record until you have completed the Tour tab.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Guard tour tab

Configure the specifics of this tour by completing the elements displayed on this tab.

Figure 123.Guard tour tab

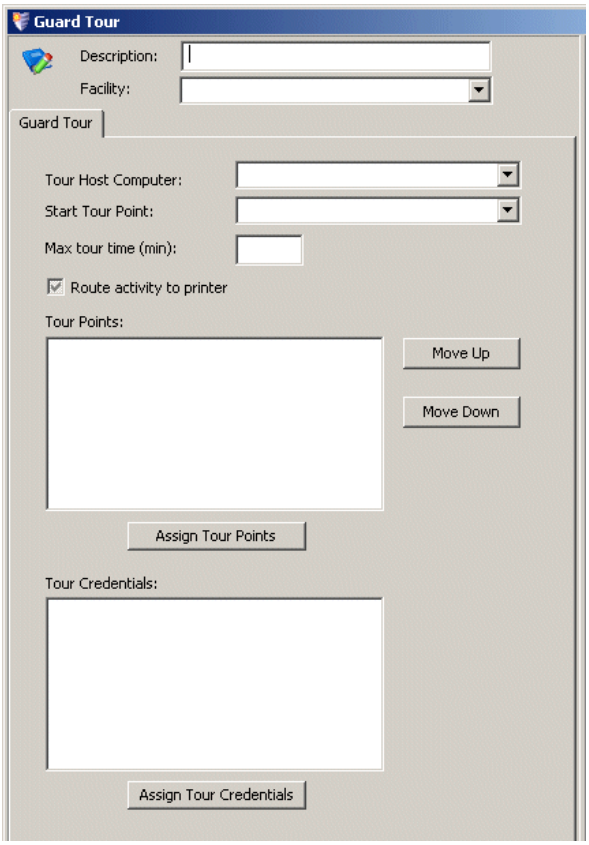


Table 169. Form fields

Element	Description
Tour Host Computer	From the drop-down list, select the computer that hosts this tour. Guard tours must be owned by a specific client host.
Start Tour Point	From the drop-down list, select a tour point as the start point of this tour. • Only direct and network controller devices display in this drop-down list. • When you select a start point, Assign Tour Points becomes available.
Max tour time (min)	• Enter the maximum number of minutes that this tour is allowed to last. When the maximum time is reached, a tour is ended automatically. • The default and maximum number of minutes in this field is 480.
Route Activity to Printer	Select this check box to route credential activities to a selected and enabled system printer at the client computer that is hosting the Guard Tour. You must have two separate printers configured if you are using a printer for tour activities and a printer for credentials.
Tour Points	• Displays a list of assigned tour points. All tours are random. A random tour is a tour where all of its points do not need to be hit in a particular order, except the assigned start point. • Every time this tour is executed, the order of 'hit' points can vary. A random tour ends automatically when all of its tour points have been hit.
Assign Tour Points	• Click to display a Point Assignment dialog box, allowing you to assign Tour Points to this tour. • Selection results display in the Tour Points windowpane. The Point Assignment window displays when you click **Assign Tour Points**, enabling you to select and assign tour points to a tour. • Select, and then click the right arrow to assign an available point. • Select, and then click the left arrow to unassign a point. • A DI start point can exist in only one tour; therefore, any DIs previously assigned as Start Tour Point in any tour, do not display in the list. The DI point cannot be re-used. • All tour points must be associated with controllers within the same Region. • Tour points can be readers or DIs that are not on a dial-up controller: 1) If a reader is selected as the start point, DIs not assigned to a tour, display in this list. 2) DI points can only be assigned to one tour. 3) Reader tour points can be assigned to any tour and any number of tours. A reader as a tour point can be re-used. • The number of points assigned to a tour is limited to 64. • If any reader is assigned as a tour point, at least one credential must be assigned to the tour. • If all tour points are DIs, you do not need to assign a credential to the tour. Click **OK** to display the results in the Tour Points windowpane.
Move Up	Select and click to move this Tour Point up the list. This tour point order displays on the Manual Control form, Guard Tour tab.

Table 169. Form fields (continued)

Element	Description
Move Down	Select and click to move this Tour Point down the list. This tour point order displays on the Manual Control form, Guard Tour tab.
Tour Credentials	Displays a list of assigned tour credentials. At least one credential must be assigned to a tour.
Assign Tour Credentials	• Click to display a Credential Assignment dialog box, allowing you to assign credentials to this tour. • If a reader is assigned as a tour point, a credential must be assigned before this Guard Tour record can be saved. The Credential Assignment window displays when you click **Assign Tour Credentials**, enabling you to select and assign tour credentials to a tour. • Multiple credentials can be assigned to a guard tour, but if a credential is assigned to a tour, the same credential cannot be assigned to any other tours. • The same credential must be used to complete the entire tour. • When a credential is assigned to a guard tour, the credential is downloaded to all controllers that have reader type tour points for that guard tour. • If any reader is assigned as a tour point, at least one credential must be assigned to the tour. • If all tour points are DIs, you do not need to assign a credential to the tour. Click **OK** to display the results in the Tour Credentials windowpane.
Save	• Click to save this tour record and simultaneously create a new alarm, Guard Tour Max Time Exceeded. • If you have not completed the required elements, you cannot save.

How to

1. Review the guidelines in *Table 169* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Define tours points

This feature is enabled for systems licensed and configured with Micro controllers.

Note: The Tour Points form, Guard Tours group, is enabled if you are licensed for Guard Tour.

A Guard Tour is an inspection of your facility premises, made by a security officer at random intervals. The officer stops at pre-determined tour points along the way, where a credential must be presented to a reader or

DI point so that the system can track the credential progress. Each time the officer presents a credential to a reader, a tour point is ‘hit.’

- Tour Points and a Guard Tours record must be created before a tour can begin.
- Tour points can be any readers or DIs that are not on a dial-up controller.
- DIs must be configured as a DI type of Guard Tour.
- DI points can only be assigned to one Guard Tour.
- Reader tour points can be assigned to any tours and any number of tours.
- All tour points must be associated with controllers within the same Region.
- The credential read does not grant access or cause an invalid alarm.
- Double-hit points along the tour result in invalid tour transactions.
- Credential transactions are stored in credential history and available to generate reports.
- A credential must be assigned to the tour.

Additional statements relating to Guard Tours are listed in *Define Guard Tours on page 280*.

Table 170. Form fields

Element	Description
Search	Click to display or change an existing Guard Tour point record. If this is a Global configuration, points that display are limited to the active Region. You cannot edit a Guard Tour Point if it is assigned to a Guard Tour.
Add	Click to configure a new Tour Point record.
Delete	Click to delete a selected Tour Point record from the list in the windowpane on the right, that is no longer required and is not assigned to an existing Guard Tour. If this is a Global configuration, points that display are limited to the active Region.
Description	This field is required and accepts up to 64 characters. Enter a unique or suggestive description for this tour point.
Facility	Assign a facility option from the drop-down list of available facilities for assignment by this operator. If you do not select a facility, Ignore Facilities is assigned for you.
Tour Point tab	Configure a reader or digital input. You cannot save this record until you have completed the Tour Point tab.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Tour Point tab

A tour point can be a reader or digital input. You must select one option before you can save this point record.

Figure 124.Tour Point tab

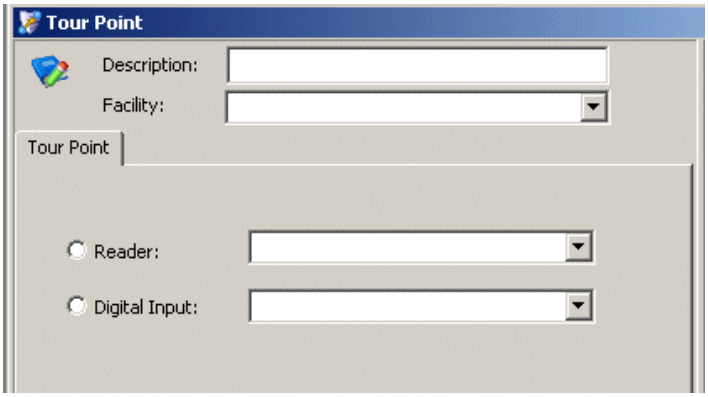


Table 171. Form fields

Element	Description
Reader	If you selected Reader, this field is available. Select a reader from the drop-down list of available readers. **Note:** When reader records are created, we recommend that you keep the **mmmm-b-pp** prefix and add text to the description field. A complete and accurate reader description aids in assigning the reader points from this drop-down list.
Digital Input	If you selected Digital Input, this field is available. Select a digital input from the drop-down list of available digital inputs. **Note:** When the digital input records are created, we recommend that you keep the **mmmm-b-pp** prefix and add text in the description field. A complete and accurate digital input description aids in assigning alarm points from this drop-down list.

How to

1. Review the guidelines in *Table 171* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

What's next?

Continue with *Chapter 9, Monitor and control on page 287*.

Chapter 9 Monitor and control

This chapter provides an overview of the monitoring options, status capabilities, graphics console, and manual controls within this application.

In this chapter:

Overview 288
Activity monitoring 288
Alarm monitoring 294
Client monitoring 300
Controller monitoring 303
Digital input status 309
Digital output status 311
Graphics Console 313
Manual control form 314
Transaction override 323
What's next? 325

Overview

All Monitors: The monitor forms, in the Monitors and Controls group, open and display outside of the main application window. Right-click on the form window to display a shortcut menu of options. The window can be independently moved anywhere on the desktop. This feature has been incorporated to facilitate multi-window management for both single and multi-monitor workstation configurations.

Activity monitoring

Note: For a shortcut to the functions available within the Activity Monitor form or to a related form, right-click anywhere in the area where the credential transactions display. Not all options are available to you. You must click on a credential transaction with a camera association in order to enable video options on the shortcut menu. Camera and reader association (linking) is accomplished on the Alarms & Events Group, Event Trigger form.

Figure 125.Activity monitor

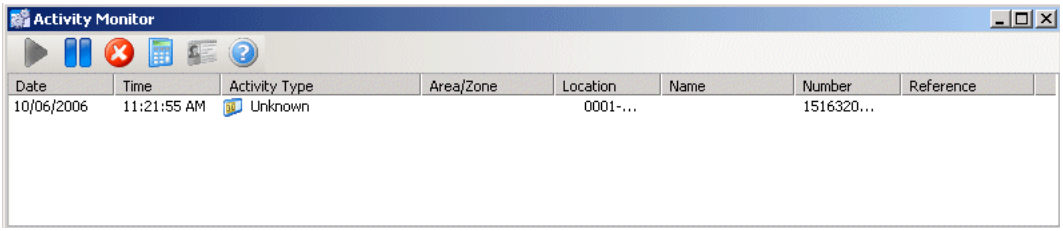


Table 172. Form fields

Element	Description
Date	Displays the date in the controller on which the credential transaction occurred.
Time	Displays the time of the credential transaction occurrence in the controller.
Activity Type	Displays the type of activity that occurred, along with a graphic:
• **Valid**	Person was granted access.
• **Invalid**	Person was not granted access. **Examples**: Person was not given access to the reader, the credential is suspended, the reader was inactive, the reader was offline, or the door was unlocked.
• **User-defined custom credential status**	This credential is mapped to a Suspended on the Custom Credential Status form and does not grant access. The user-defined custom credential status displays in the Activity Type column, as assigned on the Credential form. **Example**: 1. On the Custom Credential Status form, a status of **Pregnancy leave** is created and assigned a Status of **Suspended**. 2. Jane Doe goes on leave and her credential is assigned a Status of **Pregnancy leave**, as selected from the Credential form, Status drop-down list. 3. While on leave, Jane swipes her badge at a valid reader. Access is denied. 4. The Activity Monitor, Activity Type column displays a message of **Pregnancy leave**.

Table 172. Form fields (continued)

Element	Description
• **Lost**	Credential status is lost.
• **Unknown**	Credential is not in this application database.
• **APB in Invalid**	Current credential APB current status of IN, and attempted to gain access to an APB IN reader.
• **APB Out Invalid**	Current credential APB current status of OUT, and attempted to gain access to an APB OUT reader.
• **TA In Invalid**	Current credential T&A current status of IN, and attempted to gain access to T&A IN reader.
• **TA Out Invalid**	Current credential T&A current status of OUT, and attempted to gain access to a T&A OUT reader.
• **Valid Floor**	Elevator control with floor tracking is being used and the person was granted access to the selected floor.
• **Invalid Floor**	Elevator control with floor tracking is being used and the person was not granted access to the selected floor.
• **Duress Valid**	'Grant Access on Duress' is active on this system (selected on the Preference form) and door access was granted with a valid credential. This selection allows a duress alarm to be generated when a PIN code is entered and one of the following: (a) ***Micro controllers***: with the final digit incremented by + 1. (That is, 1239 becomes 1230.) (b) ***ACU controllers***: with the entire number incremented by +5. (That is, 1239 becomes 1244.)
• **Duress Invalid**	'Grant Access on Duress' is not active on this system (not selected on the Preference form) and an attempted door access with a PIN code and one of the following (a) ***Micro controllers***: with the final digit incremented by + 1. (That is, 1239 becomes 1230.) (b) ***ACU controllers***: with the entire number incremented by +5. (That is, 1239 becomes 1244.)
• **Duress Valid Open**	'Grant Access on Duress' is active on this system (selected on the Preference form) and door access was granted with a valid credential. This selection allows a duress alarm to be generated when a PIN code is entered and one of the following: (a) ***Micro controllers***: with the final digit incremented by + 1. (That is, 1239 becomes 1230.) The door opens. (b) ***ACU controllers***: with the entire number incremented by +5. (That is, 1239 becomes 1244.) The door opens.
• **Duress Valid No Passage**	'Grant Access on Duress' is active on this system (selected on the Preference form) and door access was granted with a valid credential. This selection allows a duress alarm to be generated when a PIN code is entered and one of the following: (a) ***Micro controllers***: with the final digit incremented by + 1. (That is, 1239 becomes 1230.) (b) ***ACU controllers***: with the entire number incremented by +5. (That is, 1239 becomes 1244.) The unlock time expired and the door did not open.
• **Valid Open**	'Enable Valid No Passage' is active on this reader. A valid credential read occurs and the door opens.

Table 172. Form fields (continued)

Element	Description
• **Valid No Passage**	'Enable Valid No Passage' is active on this reader. A valid credential read occurs but the door did not open within the configured unlock time. This may be an indication of someone deciding not to pass through the door, or an accidental read as someone passes a reader.
• **Invalid PIN**	A credential was presented at a reader and an invalid PIN was entered. This message displays for as many times as you enter an invalid PIN, unless 'Max Invalid Pin' is configured on the Reader form, Reader tab. The credential does not grant access.
• **Max Invalid PIN**	'Max Invalid PIN Count' is active on this reader and the number of invalid credential counts has reached the maximum, as configured on the Reader form, Reader tab. The credential did not grant access and the credential is suspended.
The following are intrusion zone and Area activities:	
• **Zone Armed**	By reader, DI, manual control, or ACU by inactivity.
• **Zone Disarmed**	By reader, DI, manual control, or ACU by inactivity.
• **Arm/Disarm Failed, Zone Not Secure**	An alarm is in alarm state. Device or credential transaction failed.
• **Arm/Disarm Failed, Time Expired**	No credential transaction. The 10-second time period allowed for completion of the arm/disarm process at keypad and reader has expired. (For systems using ACU controllers, this is a 30-second time period but can be modified.)
• **Arm/Disarm Failed, Invalid Access Right**	Intrusion Zone not assigned to access right or is invalid.
• **Arm/Disarm Failed Not in Zone**	Reader is not assigned to the zone.
The following are Guard Tour activities:	
• **Tour Started**	Security officer has started a Guard Tour.
• **Tour Ended**	Security officer has completed a Guard Tour. ·All tour points have been 'hit.'
• **Tour Started Manually**	A Guard Tour was started manually, at the control station and not by presenting a credential at a reader or DI point.
• **Tour Ended Manually**	A Guard Tour was ended manually, at the control station and not by presenting a credential at a reader or DI point.
• **Tour Activity**	A tour point was hit along a Guard Tour.
• **Invalid Tour Activity**	• Double 'hit' of any assigned tour point. • A tour point is 'hit' during a paused tour. • If a tour has not started and its points are hit, an invalid tour activity transaction is not generated.
• **Tour Paused**	This previously started tour has been paused. The clock time to complete this tour is temporarily stopped.
• **Tour Resumed**	This previously paused tour has resumed. The clock time to complete this tour is resumed.

Table 172. Form fields (continued)

Element	Description
Area	When an Area or Zone is armed/disarmed, this column displays the description of the Area/Zone.
Location	• Displays the DI or reader description. • If an event trigger has been defined for associating video with transactions from specified reader(s), a camera icon displays as part of the reader description. When selecting a credential transaction identified with a camera icon, right-click to display the shortcut menu, then select a video option. • If this credential is a guard tour credential, this field displays the description of the tour point. • If activity is manual control, Client name displays.
Name	• If this credential is assigned to a person, the name of the person displays. • If this activity is manual control, the operator name displays. • If this credential is a guard tour credential, the name of the person displays. • If this hit is a DI point, this field is blank.
Number	• If the credential is unknown or not assigned to a person, the credential number or, if aliasing is used, the credential alias number is displayed. • Otherwise, this field is blank.
Reference	• If this is an elevator reader (Valid Floor or Invalid Floor displayed in the field), this field displays the floor selected. • If this is a guard tour, the guard tour description displays. • If 'Max Invalid PIN Count' displays in the activity type, then 'Credential Suspended' displays here. • For any other activity type, this field is blank. • (***For systems using ACU controllers***) Access logging information codes display.

Activity Monitor toolbar

The Activity Monitor form toolbar consists of the following options:

Table 173. Form fields

Element	Description
Resume	Resume or restart the scrolling of credential transactions. This icon is active only if you clicked Pause. All credential transactions display that occurred while the Pause option was on, once you select resume.
Pause	This option pauses or suspends the scrolling of credential transactions on the Activity Monitor form.
Clear	Clear all credential transactions.

Table 173. Form fields (continued)

Element	Description
Reader List	Display an Edit Readers List dialog. The Edit Readers List displays Available and Assigned readers that are enabled for monitoring. Only readers in the operator's facilities are available for assignment by this operator. • Select, and then click the right arrow to assign an available reader. • Select, and then click the left arrow to unassign a reader. Click **OK** to accept the assignments and close the dialog box.
Swipe and Show	Start the *Swipe and Show* program. This option is not available if the system is not licensed for Imaging or readers have not been selected.
Help	Displays the online Help system.

Activity Monitor shortcut menu

The Activity Monitor shortcut menu consists of the following options:

Table 174. Form fields

Element	Description
Resume	Starts the scrolling of credential transactions. This option is active only if you previously selected Pause. All credential transactions display that occurred while the Pause option was on, once you select Resume.
Pause	Suspends scrolling of credential transactions on the Activity Monitor.
Clear	Clears all credential transactions from the Activity Monitor.
Swipe and Show **Readers**	Select to display an Edit Readers List assignment form. Select those readers you want monitored in the Swipe and Show window. If readers have been selected, right-click an activity record, and launch the Swipe and Show program.
Launch *Swipe and Show*	Starts the Swipe and Show program. Only one instance of Swipe and Show is available for display on a computer at one time. **Note:** If Imaging is not licensed for the system, this option is not available.
Credential	Displays the Credential form, making available the selected credential record.
View Live Video	Accesses live video from the camera(s) associated with the reader's credential transaction as defined by its event trigger. In order to view live video, the DVR must be online (if it is a duplex recorder, the recorder must also be in record mode). The following windows open: • The Digital Video Viewer. (Refer to *Navigate video console on page 209* for information about the Digital Video Viewer.) • Video window(s) displaying the current live view of the camera(s) associated with the credential transaction. Each window displays a dialog box containing the current date and time.

Table 174. Form fields (continued)

Element	Description
View Recorded Video	Accesses previously recorded video from the camera(s) associated with the reader's credential transaction as defined by its event trigger. In order to view recorded video, the DVR must be online and available. The DVR cannot be serving another request for playback of any recorded video event. The following windows open: • The Digital Video Viewer. (Refer to *Navigate video console on page 209* for information about the Digital Video Viewer.) • Video window(s) displaying the recorded video associated with the credential transaction. Each window displays a dialog box containing the current date and time.
View Single Recorded Frame	Select to display the first frame of the event recording as a still photo.
Quick Launch	Accesses live and recorded video from camera(s) associated with the reader's credential transaction as defined by its event trigger.

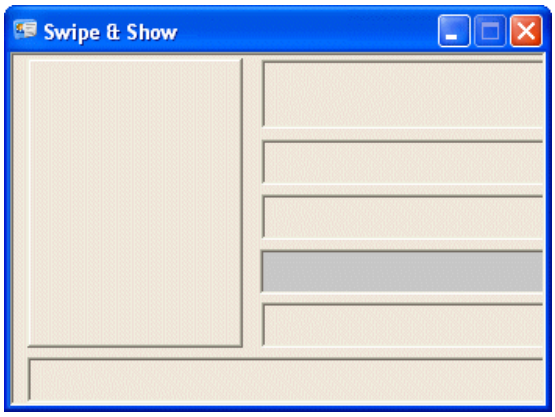
Note: A message dialog displays if video is not available because associated cameras are not assigned to the currently active facility.

Swipe and show option

Note: Only one instance of Swipe and Show is available for display on a computer at one time. If readers have not been selected, the program does not start. If Imaging is not licensed for the system, this option is not available.

The Swipe and Show program is a monitoring and validation option, available on the Activity Monitor form. When properly configured and following a credential transaction, the operator is able to observe a credential photo and text description of the transaction in the Swipe and Show window. An operator is able to monitor transactions and compare the photo ID to a live image.

Figure 126.Swipe and Show window



The Swipe and Show window is resizable and displays the following:

Table 175. Form fields

Element	Description
Photo	A photo displays in this windowpane for the credential presented to the reader. If no photo is available or an unknown credential is presented to the reader, a silhouette displays.
Name	First name, middle initial, and last name of credential holder.
Employee Number	Number assigned to this employee.
Department	Department where person is assigned.
Transaction Type	Valid (displays green), invalid (displays red), or unknown (displays gray) messages display. Guard Tour activity types also display. See *Activity monitoring on page 288* for a listing of activity types.
Date/Time	Reader transaction date and time.
Reader Description	Description of reader where credential was presented.
Always on Top	Right-click the Swipe and Show title bar to display a shortcut option that keeps the window in the forefront of all windows displaying on the workstation.

If you select another transaction, the window content changes to the available information for that transaction. Close this window by selecting the window exit button, closing the Activity Monitor form, or closing this application client program.

Alarm monitoring

All Monitors: The monitor forms, in the Monitors and Controls group, open and display outside of the main application window. Right-click on the form window to display a shortcut menu of options. The window can be independently moved anywhere on the desktop. This feature has been incorporated to facilitate multi-window management for both single and multi-monitor workstation configurations.

The Alarm Monitor form displays alarm activity.

- An operator can see alarms on the Alarm Monitor form only for facilities that are currently active and assigned to the current operator.
- The option to monitor an alarm must be selected on the Alarm form in order for a specific alarm to display on the Alarm Monitor form.

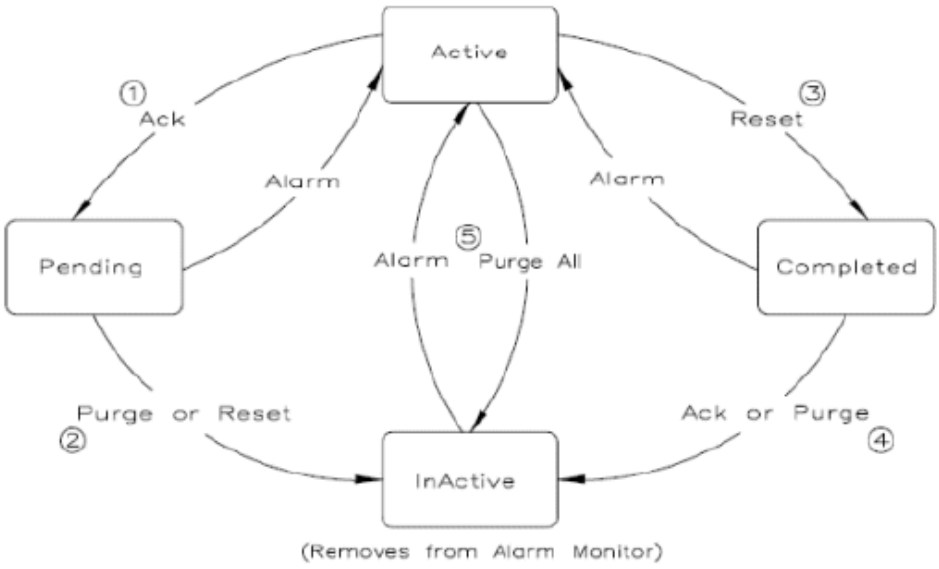
All responses can be obtained from the Administration Report, with ‘Response’ selected as the report type on the General tab.

Table 176. Form fields

Element	Description
Alarm Conditions	Alarm Reset Cut Short
Process States	This is an internal state for alarm conditions: Active Pending Inactive Completed

The following diagram explains the action of alarms, and how alarm states and process states relate to each other.

Figure 127.Alarm states



- When an alarm (configured for Operator acknowledge) is in alarm condition (either Alarm, Cut, or Short), its internal process state is Active.
- When an alarm (configured for Operator acknowledge) is in alarm condition (either Alarm, Cut, or Short) and is acknowledged (see #1 above), its internal process state becomes Pending. This displays on the Alarm Monitor form as Alarm with a process state of Acknowledged, preceded by a check.
- When an alarm (NOT configured for Operator acknowledge) is in alarm condition (either Alarm, Cut, or Short) and is acknowledged, its internal process state becomes Inactive and the alarm is removed from the Alarm Monitor form.

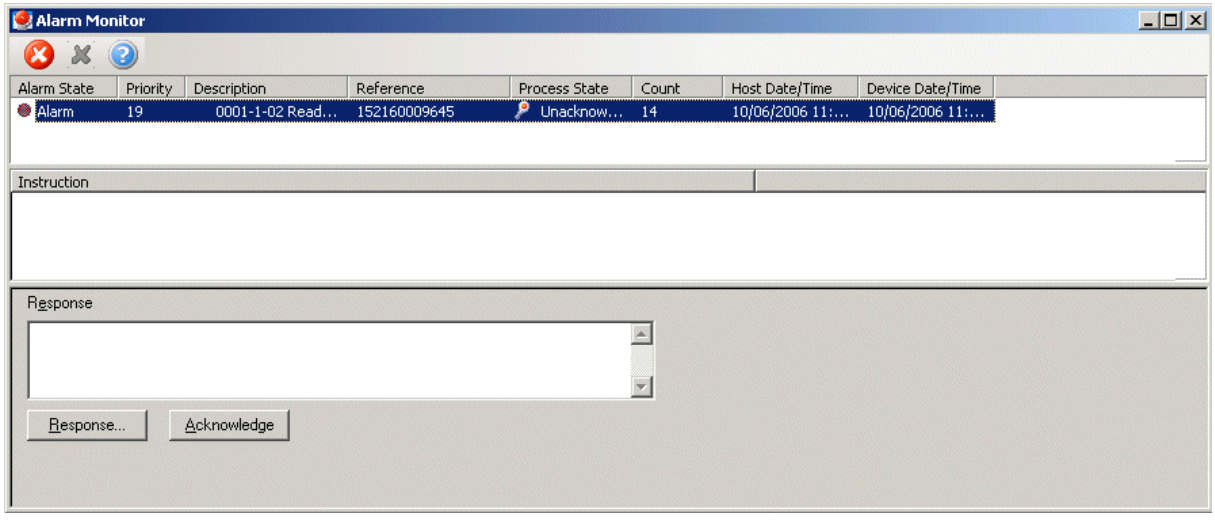
- When an alarm is in alarm condition (either Alarm, Cut, or Short) and its internal process state is Pending (displayed as Acknowledged, preceded by a check on the Alarm Monitor form) and the alarm is Purged individually or Reset (see #2 above), its internal process state becomes Inactive and it is removed from the Alarm Monitor form.
- When an alarm is in alarm condition (either Alarm, Cut, or Short) and the alarm is reset (see #3), its internal process state is Completed. This displays on the Alarm Monitor as Alarm in reset.
- When an alarm is in reset and the alarm is either acknowledged or purged (see #4 above), its internal process state becomes Inactive and it is removed from the Alarm Monitor form.
- When an alarm is in alarm condition (either Alarm, Cut, or Short) and the 'Purge All' feature is employed (see #5 above), its internal process state becomes Inactive and it is removed from the Alarm Monitor form.

Note: When an operator acknowledges a few specific alarms, their process state becomes Inactive and they are removed from the Alarm Monitor form. This happens when the following two conditions are met:
1. If the alarm is not configured for Operator acknowledge on the Alarm form.
2. Logical alarms are system-generated and configurable. They cannot be a cut or shorted.

Examples:
Invalid credential alarm
Lost credential alarm
Duress credential alarm
Host Comm alarm
Encryption alarms
Failover alarms

(This differs from a physical alarm that is generated by an actual input device.)

Figure 128.Alarm Monitor



Using the Alarm Monitor form

Note: For a shortcut menu to the functions available within the Alarm Monitor form or to a related form, click the right mouse button within the first windowpane where the alarms display or the second pane where the messages display. Not all options are available. You must select an alarm activity with a camera association in order to enable video options on the shortcut menu.

There are three sections to the Alarm Monitor form:

1. The top section or pane lists the alarms.
2. The second pane lists any instructions assigned to the current (highlighted) alarm.
3. The third pane allows you to respond to an alarm by either selecting a predefined response or entering text.

Column headings

Default columns display. Drag-and-drop capability allows you to re-arrange the columns. You can also display only a few columns.

Table 177. Form fields

Element	Description
State	Displays an icon associated with an alarm process state.
Priority	Displays the priority of the alarm. The priority tells the system in which order it should alert the operator when multiple alarms occur simultaneously. The priority range is 0 to 19. The lower the number, the higher the priority of the alarm. Also, refer to *Define alarm priority on page 170*.
Description	Displays the alarm description. Refer to the following examples: • Tamper Alarm: ***Micro controller***: `mmmm-b-pp Tamper` ***ACU controller***: `mmmmm-na-pp Tamper` where `mmmm` or `mmmmm` represents the controller number to which this reader is associated, `b` represents the module number (`n` represents the port number and `a` represents port address), and `pp` represents the point or device number, and `Tamper` is the alarm description. • Regional Failover on a Global configuration: `bcttestpc-Region Failover Alarm` where `bcttestpc` is the PC Name of the client that has failed over to its configured backup Region, and `Region Failover Alarm` is the alarm description.
Reference	Displays additional information relating to the type of credential alarm. Only reader alarms have a reference, such as a person name or credential number. This column may be blank.
Condition	Displays the current state of the alarm. The four possible states are as follows: • **Alarm**: The point is in the Active alarm state (either Closed or Opened). The Active alarm state for an alarm is defined on the Alarm form. • **Reset**: The point is no longer in the active alarm state. • **Cut**: The wiring to the alarm point has been cut. • **Short**: The wiring to the alarm point has been short circuited.
Process State	The process state is Active, Pending, Inactive, or Completed. This is an internal state for alarm conditions. To acknowledge an alarm, select the desired alarm and click Acknowledge. The alarm icon changes to reflect the acknowledgement and clears from the window after reset.

Table 177. Form fields (continued)

Element	Description
Count	The number of times the alarm has entered an alarm state since the alarm was last cleared from the Alarm Monitor.
Host Date/Time	The date and time the alarm occurred according to the system date and time.
Device Date/Time	The date and time the alarm occurred according to the controller's date and time.
Facility	Displays the Facility associated with this alarm.
Area	The column displays for systems with ACU controllers. Displays the Area associated with this alarm
Instructions	Displays the instructions linked to the current alarm. When an alarm is displayed on the Alarm Monitor form, select the alarm. The alarm instructions set up for this alarm display in the Instruction windowpane, providing guidelines for the operator to resolve the alarm condition. Predefined Instructions were created on the Instruction Form of the Alarms & Events group. Refer to *Define instructions on page 151*.
Response	This is a multi-line dialog box, allowing you to manually enter a response of up to 256 alphanumeric characters, for the current alarm.

Alarm Monitor toolbar

Table 178. Form fields

Element	Description
Purge All	Click this button on the toolbar to remove all alarms on the Alarm Monitor regardless of whether the alarms are acknowledged or unacknowledged. An operator must have an ALL permission for the Alarm Monitor in order to have access to this icon.
Purge Individual	Click this button on the toolbar to remove one or more alarms without waiting for them to reset. The alarm(s) can be unacknowledged and cleared as long as it was not defined on the Alarm form as requiring an acknowledgment. Select a series of alarms in sequence or individual alarms not in sequence.
Help	Displays the online Help system.

Table 178. Form fields

Element	Description
Response	Click to display a list of predefined responses. Predefined responses are created on the Alarm Response form. Refer to *Define alarm responses on page 152*. If the entire list does not fit, scroll bars become available on the right of the window. Select a response and click **OK** for the selected response to display in the Response windowpane of the Alarm Monitor form. • You can manually extend the response by placing your cursor at the end of the entry and appending to a maximum of 256 alphanumeric characters. • You can append an additional predefined response without overwriting the existing entry. • When you append an additional predefined response to the existing entry, a warning message displays if the response exceeds 256 characters. The additional response is not appended. The selected response is recorded in alarm history when the alarm is acknowledged.
Acknowledge	Click to acknowledge an alarm. Forced acknowledgement to an alarm is required only if the Operator Acknowledge check box has been checked to enable this function on the Alarm form. An alarm process state is either Unacknowledged or Acknowledged. To acknowledge an alarm, select the desired alarm and click Acknowledge. The alarm button changes to reflect the acknowledgement and clears from the window after reset.

Alarm Monitor shortcut menu

Table 179. Form fields

Element	Description
Show Inactive Alarms	Display alarms in an inactive state and removed from view. These alarms were previously acknowledged or purged from the Alarm Monitor. This is a toggle election and is a way to display previous alarm activity without running a report.
Alarm	Opens the Alarm form, allowing you to modify or view that particular alarm record.
Graphic Console	Opens the Graphic Console form, allowing you to view the alarm graphics map to which the alarm belongs.
View Live Video	(If a camera icon is not displayed to the left of the alarm description, this option is not available.) If an alarm transaction is displayed with a camera icon to the left of the alarm description, right-click to view live video from the camera(s) associated with the alarm's transaction as defined by its event trigger. Refer to *Video windows on page 196* for window management information. **Note:** In order to view live video, the DVR must be online (if it is a duplex recorder, the recorder must also be in record mode). The following windows open: 1) Digital Video Viewer. Refer to Video Console Help for information about the Digital Video Viewer. 2) Video window(s) displaying the current live view of the camera(s) associated with the alarm transaction. Each window displays a dialog box containing the current date and time.

Table 179. Form fields (continued)

Element	Description
View Recorded Video	(If a camera icon is not displayed to the left of the alarm description, this option is not available.) If an alarm transaction is displayed with a camera icon to the left of the alarm description, select to view live video from the camera(s) associated with the alarm's transaction as defined by its event trigger. Refer to *Video windows on page 196* for window management information. **Note:** In order to view recorded video, the DVR must be online and available, and not serving another request for playback of recorded video based on this event. The following windows open: 1) Digital Video Viewer window. Refer to Video Console Help for information about the Digital Video Viewer. 2) Video window(s) displaying the current live view of the camera(s) associated with the alarm transaction. Each window displays a dialog box containing the current date and time.
View Single Recorded Frame	Select to display the first frame of the event recording as a still photo.
Quick Launch	Select to automatically access live and recorded video from the camera(s) associated with the alarm's transaction as defined by its event trigger. Refer to *Video windows on page 196* for window management information. **Note:** In order to view live and recorded video, the DVR must be online and available, and not serving another request for playback of recorded video based on this event. The following windows open: 1) Digital Video Viewer 2) Video window(s) displaying the current live view of the camera(s) associated with the alarm transaction. Each window displays a dialog box containing the current date and time. For additional information, click **Help** on the Digital Video Viewer window.

Client monitoring

All Monitors: The monitor forms, in the Monitors and Controls group, open and display outside of the main application window. Right-click on the form window to display a shortcut menu of options. The window can be independently moved anywhere on the desktop. This feature has been incorporated to facilitate multi-window management for both single and multi-monitor workstation configurations.

Use this form to obtain client information, such as client type, Imaging status, and connection status. A client is a computer that has all the functionality of the Database Server computer but does not store the database and it does not validate license information.

For a shortcut menu to related forms, move the mouse pointer below any tab and click the right mouse button.

Figure 129.Client monitor

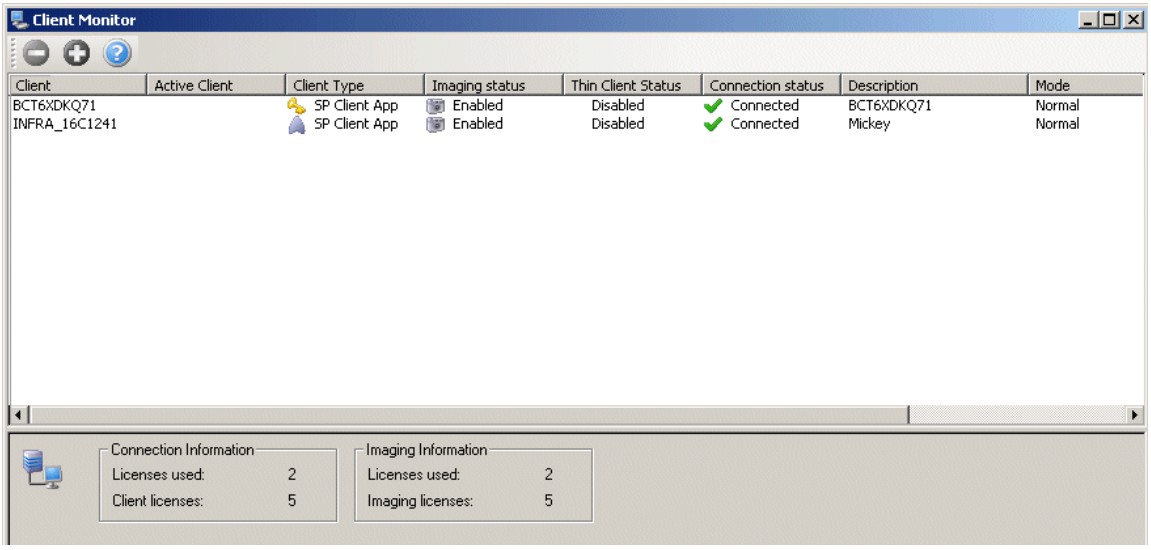


Table 180. Form fields

Element	Description
Client	Name of the networked computer. To delete, client must have a connection Status of Not Connected. **Note:** When adding clients on the Client form, the PCName must exactly match the network name of the computer, in order for connection to be made.
Active Client	This column displays an entry when a client failed and a backup client is now hosting its devices. • The column displays the currently active hostname. • If a backup attempt to a backup client failed, the column displays [Hostname] Backup Failed where Hostname = the backup client that was unable to host devices for the failed default host. • During the process of recovery to the default client, the column displays [Hostname] <recovering>. This only displays at the default client computer. Following a recovery to the default host, this column is blank.
Client Type	Type of client: FCWnx or CCTV. This client can be one of the workstation types as assigned on the Client form. See *Workstation Type on page 50*.
Imaging Status	Shows whether the client currently has Imaging capabilities. To change the Imaging status, the client must have a connection status of Not Connected. • Enabled: This client has Imaging capabilities, that is, you can capture, design, and print using this computer. • Disabled: This client does NOT have Imaging capabilities.
Thin Client Status	Displays whether this client is licensed for Thin Client terminal services.

Table 180. Form fields (continued)

Element	Description
Connection Status	Current status of the connection between the client and the server: • Connected: The client and server are communicating. • Not Connected: The client and server are not communicating.
Description	Displays the description of the client.
Region	This is a Global configuration and this is the name of the Region for this client.
Active Region	This column displays an entry when a Regional Database Server has failed and a backup Server is now hosting the database. • The column displays the currently active Region. • Following a recovery to the default host, this column is blank.
File Server Hosting	Display name of the File Server that is hosting the database for this client.
Mode	Displays the status of the Mode for this client.
Primary Com Port	Displays the primary communications port used for CCTV serial interface.
Secondary Com Port	Displays the secondary communications port used for CCTV serial interface.
Connection Information	Licenses Used: The number of clients currently connected to the server. (CCTV interface clients do not count against client licenses.) Client Licenses: The total number of licenses authorized.
Imaging Information	Licenses Used: The number of clients currently given Imaging permissions. Imaging Licenses: The total number of Imaging licenses authorized.
Thin Client Information	Licenses used: The number of host computers enabled with the Thin Client option. Thin Client Licenses: The number of Thin Client licenses authorized.

Client Monitor toolbar

Table 181. Form fields

Element	Description
Disconnect Client	Disconnect the selected client.
Launch Client	Select this icon to launch a CCTV interface (other than integrated CCTV). This option also displays on the shortcut menu for this form. The shortcut menu displays when you click the right mouse button on the Client Monitor form.
Help	Displays the online Help system.

Client Monitor shortcut menu

Table 182. Form fields

Element	Description
Disconnect	Select this icon to disconnect the selected client.
Launch	Select this icon to enable a CCTV interface (other than integrated CCTV).
Client Form	To display the Client form, to add a client to this application network.
Recover	To initiate recovery of a host that failed, was taken over by a backup client, and is now able to host its original devices. When the default client is running, a manual recovery procedure is required to bring all its devices back to itself. Also, refer to *Backup Clients tab on page 53*. • A notification message informs you of a successful recovery. Control of devices is returned to the default host. • A notification message informs you of an unsuccessful recovery. Verify communication with the default host and retry the recovery.
Region	To display the Region form, to add a Region record to this Global system.
Recover Region	To initiate recovery of a Regional Database Server host that failed, was taken over by a backup Regional Server, and is now able to host its database. Also, refer to *Backup Regions tab on page 41*. A notification message informs you of an unsuccessful recovery.
Recover FileServer	To initiate recovery of a FileServer host that has failed and is now recovered and online. This selection is enabled and used in a custom Global configuration where one or more database components are installed on a second or separate computer from the Database Server.
Manual Control Form	To display the Manual Control form, for this operator to manually perform operations on the system.

Controller monitoring

All Monitors: The monitor forms, in the Monitors and Controls group, open and display outside of the main application window. Right-click on the form window to display a shortcut menu of options. The window can be independently moved anywhere on the desktop. This feature has been incorporated to facilitate multi-window management for both single and multi-monitor workstation configurations.

The Controller Monitor form allows you to view all types of controllers, the activities of those controllers, monitor communications, and control each controller in the system. Using the Controller Monitor form, you have the capability to select, sort, and display only the controllers that you want to view, and then save that view. The first time the Controller Monitor form is opened for viewing, all controllers are displayed if their number is equal to or less than 64.

For a shortcut menu to functions available within the Controller Monitor form, select a controller from the list and right-click.

Figure 130.Controller Monitor

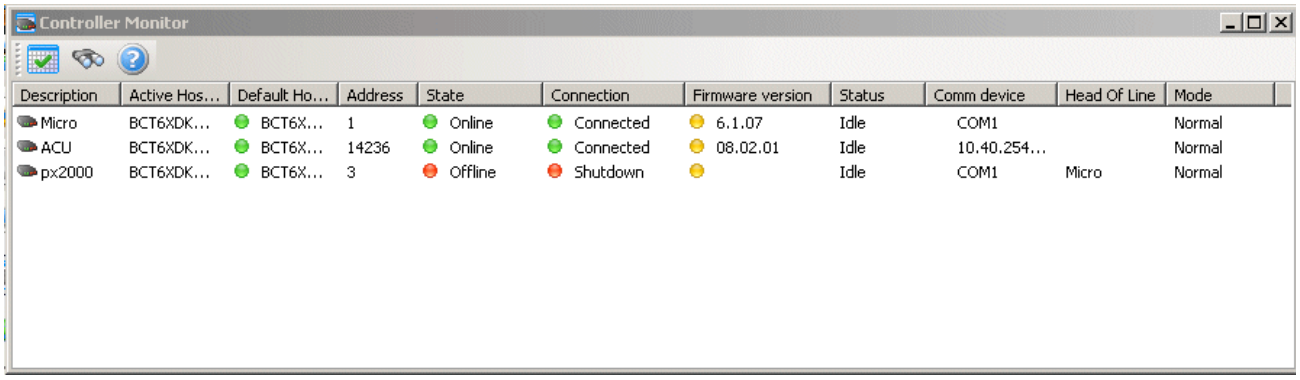


Table 183. Form fields

Element	Description
Description	The Description is assigned to the controller when defined on the Controller form.
Active Hostname	The name of the computer that controls communications to the controller. (For those computers licensed for Client Redundancy, the current Active Hostname may be a backup client and have a different name than the Default Hostname computer.)
Default Hostname	(This column does not display if this computer is not licensed for Client Redundancy.) The hostname displayed is the computer that normally hosts this controller. The icon image displays in green when the controllers are controlled by the originating host. The icon image displays in yellow to signify a failed system. The backup client computer listed in the Active Hostname column is controlling the dial-up and network+dialup controllers for this computer.
Firmware version	Firmware version: The version of firmware operating the controller.
Address	Physical address assigned to the controller when defined.
State	Current state of the communications with the controller. • Online means that the host attempts to communicate with the controller. • Offline means that the host does not attempt to communicate with the controller. • Error means that there is a communications problem.
Connection	Connection messages include the following: • Connected - controller is online and working. • Shut down - No connection. • Create port - trying to open a physical medium. • Set up connection - physical medium is open. • Tear down connection - connection is in the process of being closed. • Waiting for call. • Dialing. • Retrying call. • Destroy port - physical medium is being closed.

Table 183. Form fields (continued)

Element	Description
Status	Status shows what is happening between the host and the controller. Messages include the following: • Alarm download. • Alarm message download. • Credential download. • DO download. • DO group download. • Download start. • Elevator download. • Error. • Flash Error (See Diagnostic Log) • Flashing Controller. (The entry includes the percent of flash download complete.) • Flashing Completed. • Idle. • Incorrect controller type. • Inquiry. • Normal. • Password download. • Reader download. • Reset. • Schedule download. • Telephone download. • There are fewer than 4 passwords defined.
Mode	This displays the current mode or state of the controller. The mode is assigned on the Mode Schedule form or by a manual control command. The mode default labels are Normal, Mode 1, Mode 2, or Mode 3 or as re-labeled on the Preference form.
Comm device	Comm device messages include the following: • If this is a direct-connect controller, lists the COM port to which this controller is connected. • If this is a dial-up controller, the text Dial-Up is displayed. • If this is a network controller, the IP address of the controller is displayed. • If this is a network + direct controller, the IP address displays. If the controller loses network connection and fails over to a direct connect, in approximately two minutes, the display changes from the IP address to COM port. When a failover occurs, a yellow LED displays in the COM address column. • If this is a network + network controller, the IP address displays. If the controller loses network connection, fails over to a secondary network IP address, the display changes to the secondary IP address. When a failover occurs, a yellow LED displays in the COM address column. • If this is a network + dial-up controller, the text Dial-Up is displayed. **Note:** If a host computer is licensed for Client Redundancy, has assigned a backup client, and a failover occurs, a failover COM port displays.
Head Of Line	• If the controller is defined as head-of-line, this field is blank. • If the selected controller is not head-of-line, this field contains a description of the controller that is the head of this line.

Table 183. Form fields (continued)

Element	Description
Message Count	This field displays the number of messages waiting to be sent to a selected controller.

Controller Monitor toolbar

Note: For a shortcut menu to functions available within the Controller Monitor form, select a controller from the list and right-click.

For icon functionality on the Controller Monitor Form toolbar, refer to *Table 184*.

Table 184. Form fields

Element	Description
Select Columns	Display the Select Columns dialog box. This option allows you to select columns that you want to display on the Controller Monitor form by putting a check next to the column name. When you click **OK**, the selected columns are saved so you do not have to select again the next time the form is opened. **Note:** If you are licensed for Client Redundancy, the column Default Hostname is available for selection. If not licensed for Client Redundancy, this selection is unavailable.
Search	Display the **Search Criteria and Controller Selection** dialog box, allowing you to search and select controllers that you want to display on the Controller Monitor form. Refer to *Search criteria and controller selection* below. **Note:** The first time the form is opened when there is more than 64 controllers, a message displays informing you of the number of controllers about to display and ask if you want to select search criteria.
Help	Displays the online Help system.

Search criteria and controller selection

This dialog box allows you to enter search criteria for available controllers, from facilities to which you have access, that you want to add to your view or remove from the list of displayed controllers, based on the results of the search criteria. Complete one or more of the search criterion.

Table 185. Form fields

Element	Description
Controller	Enter a controller description for which to search. You may use wildcard characters as part of the search criteria.
Controller Address	Enter a controller address.
Online.Offline.Error	Select controllers that meet the search criteria and are online, offline, or in an error state.
Hostname	Select a host name.

Table 185. Form fields

Element	Description
Comm Port	Select a communication port.
Available Controllers	The controllers are displayed that meet the search criteria and are not already selected to be displayed in the Controller Monitor form.
Selected Controllers	This box displays the results of the search. The list of controllers are those that meet the search criteria and are selected to be displayed.
Search	Click to display the controllers as requested by the preferences you selected.
Clear Search	Clears the controller search criteria and selection preferences from the form windowpanes, allowing you to select new criteria.
Recall Controller Search	Select to recall and display the results of the last search performed. Every time the monitor is opened, the system displays the monitor columns based on the criteria of the last previous search.

Controller Monitor shortcut menu

Note: These options also display on the Controller Monitor form toolbar. Refer to individual icons for additional details of each function.

Table 186. Form fields

Element	Description
Edit	Open the Controller form and edit the settings for the selected controller.
Change State	Change the current state of the selected controller.
Download Credentials	Reload the credential database records for the selected controller.
Download Database	Download the controller's database.
Reset Controller	Physically reset the controller.
Reset T&A	Set the time and attendance status to neutral for all credentials in this controller.
Reset APB	Set the anti-passback status to neutral for all credentials in this controller.
Dial/Hang-up Controller	Dial that controller immediately.
Flash Controller	Click to open the **Controller Flash & Controller Preference Configuration** window that allows you to download the latest firmware to the selected controller. Refer to *Controller flash and controller preference configuration* below.
Remove Controller(s)	Remove the controller from the Controller Monitor form window.
Search Controllers	Opens the Search Criteria and Controller Selection form, and allows you to narrow the amount of criteria displayed on the Controller Monitor form.
Select Columns	Opens the Select Columns dialog box and allows you to select columns to display on the form.

Table 186. Form fields (continued)

Element	Description
Recall Controller Search	When checked, recalls last search criteria from the Search Criteria and Controller Selection form.

Controller flash and controller preference configuration

The Flash Controller option is available as an icon on the Controller Monitor form toolbar and shortcut menu. This dialog box displays only if the controller is online. There are three options:

1. View/edit preference info

Controller Preference - Direct/Dialup: This option is available for selection of a single controller. When selected, the Controller Preference Configuration screen displays and the configuration for the controller is retrieved, allowing you to edit or change an existing setup such as controller address, IP address change, or phone number changes. Once saved, the controller resets and the new changes take effect.

Note: If you change preference block data through this application, any Universal Credential Format (UBF) data is erased.

For example: If a M/5-PXN was originally configured as a direct serial controller during installation but is now a network controller, select the updated controller type and complete the network information. Click **OK**. The controller accepts the changes, resets, then changes the host information for this controller.

The Controller Preference - Direct/Dialup tab allows you to change the connection type of the controller and its Address, Idle Time, and DI res tolerance.

The Controller Preference - Networking tab displays only if the system identified your controller as a network controller and allows you to change the network preferences for the controller.

Controller Preference - Credential Format: This tab opens to display the custom credential formats that are currently in the controller. If there are no custom formats, the fields are empty. If a format in the database does not match what is available in the controller, the window list displays a message ‘Unrecognized Format.’ To change the credential format:

- **Magnetic stripe**: Select the type of magnetic stripe format from the drop-down list.
- **Wiegand**: Click **Assign formats** to display a list of available Wiegand credential formats from which to choose and assign to this controller.
- **Clear formats in controller**: Click to clear all custom credential formats from the controller. Credentials associated with those formats no longer work.

If you change the credential format, any format that existed in the controller previously is replaced.

2. Start flashing controller(s)

This option starts flashing the selected controller(s) with the latest firmware. A dialog box displays, asking you to verify your request. The flashing process takes approximately two to three minutes; it varies with amount of data that needs to be transmitted to the controller.

Upgrades:

Micro controllers: This application software communicates with controllers flashed with Secure Perfect 4.X and later firmware. All offline credential and alarm transactions are uploaded to the Server computer after the

conversion process and stored in the appropriate history table. Allow all the offline transactions to be processed before flashing controllers to the FCWnx firmware to minimize data loss. The duration of time to upload is dependent on the number of transactions stored and the length of time that the Server computer does not communicate with the controllers. This might be a few minutes or several hours.

ACU controllers: There are two ways of getting the FCWnx firmware into the ACU panels following a conversion from a Diamond II system: 1) Copy the firmware file from the FCWnx CD to the folder where the DII firmware resides; 2) Use the AcuxUtil.exe utility. The functionality of this utility is described in the *ACU Networked Intelligent Controllers Hardware Installation Manual*.

3. View/edit flash files

Use this option ONLY when it is necessary to selectively flash an older version of firmware on a controller. This application automatically selects the latest version by default. The flashing process takes approximately two to three minutes; it varies with the amount of data that needs to be transmitted to the controller. Click OK to begin the flash. When flashing is complete, the controller resets and requests a database.

- **Micro/5 - PX and Micro/PX - 2000**: The form opens with the latest .efl firmware file displayed. Click the drop-down list to display and select an older firmware file.
- **Micro/5 - PXN and Micro/PXN - 2000**: The form opens with the latest .efl network firmware file displayed. Click the drop-down list to display and select an older network firmware file.
- **MicroPXNPlus and MicroPXNPlus2000**: The form opens with the latest .efl network firmware file displayed. Click the drop-down list to display and select an older network firmware file.
- **Browse**: Click to navigate to another media source or directory where firmware files reside.
- **Override Block Checking**: Ignore this check box. This selection is for Customer Support use only.

Note: Secure Perfect Version 4.XX and later micro firmware is able to communicate with this application host and continue to send alarm and credential transactions. Upgrading your system can be a seamless operation without loss of data, time constraints during the controller migration process, or lockdowns during the database upgrade process. However, in order to take advantage of the new features that are dependant on the firmware, the ultimate goal is to bring all controllers to current level as soon as possible following the database upgrade.

Digital input status

The Digital Input Status form, Monitors and Controls group, provides a snapshot of the current status in the controllers (active or inactive) and physical state (open or closed) of a digital input (contact). Digital inputs are physical sensing devices, such as door sensors or motion sensors, used to monitor an electronic contact connected to a controller. Refer to your controller installation for information on how to connect a digital input device to the controller.

Once you have set up your digital inputs and alarms, you need to verify the accuracy of your configuration.

Status tab

This tab provides the status of the selected digital input according to the information in the controller database. You can list the digital inputs for all controllers or list the digital inputs per controller.

Figure 131.Status tab

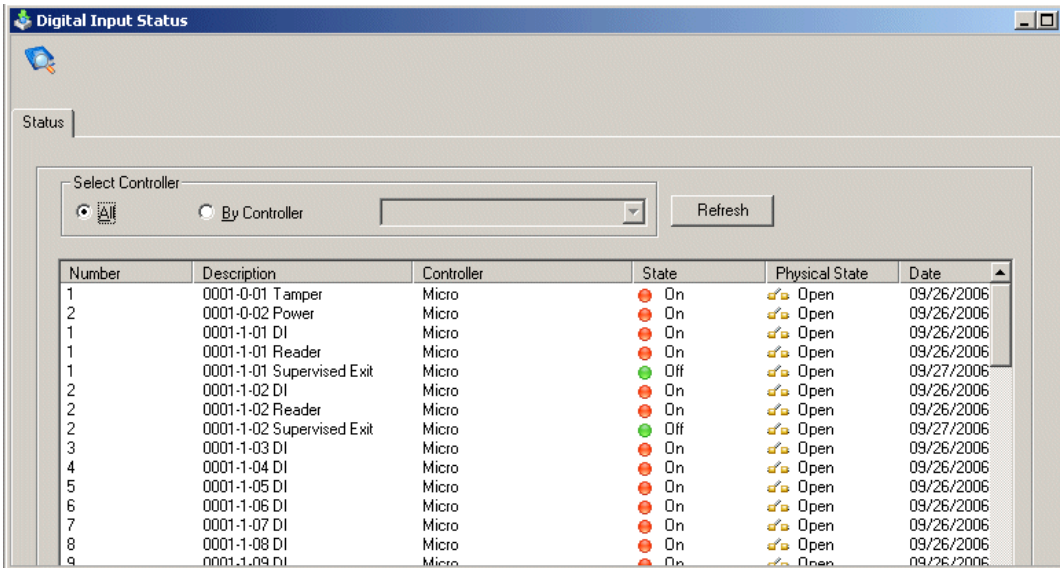

Digital Input Status
Status
Select Controller
All
By Controller
Refresh
Number
Description
Controller
State
Physical State
Date
1 0001-0-01 Tamper Micro On Open 09/26/2006
2 0001-0-02 Power Micro On Open 09/26/2006
1 0001-1-01 DI Micro On Open 09/26/2006
1 0001-1-01 Reader Micro On Open 09/26/2006
1 0001-1-01 Supervised Exit Micro Off Open 09/27/2006
2 0001-1-02 DI Micro On Open 09/26/2006
2 0001-1-02 Reader Micro On Open 09/26/2006
2 0001-1-02 Supervised Exit Micro Off Open 09/27/2006
3 0001-1-03 DI Micro On Open 09/26/2006
4 0001-1-04 DI Micro On Open 09/26/2006
5 0001-1-05 DI Micro On Open 09/26/2006
6 0001-1-06 DI Micro On Open 09/26/2006
7 0001-1-07 DI Micro On Open 09/26/2006
8 0001-1-08 DI Micro On Open 09/26/2006

Table 187. Form fields

Element	Description
Select controller	• Select **All** to display the status for all digital inputs on all controllers. • Select **By controller** to display the status for all digital inputs on a selected controller. Click the drop-down arrow to display a list of active controllers.
Refresh	Click to get an updated status on the digital inputs. A refresh for a dial-up controller causes the host to dial the controller unless they are already connected. The refresh process may take a few minutes. A reader and associated DIs are grouped together, by reader number. **Note:** A refresh selected for a controller that is offline or in error is never returned.

Table 187. Form fields (continued)

Element	Description
Column Headings	**Number**: Displays the number of the digital input assigned by the system. **Description**: Displays the description of the digital input. (A reader and associated DIs are grouped together, in reader number order.) **Controller**: Displays the number of the controller to which this digital input belongs. **State**: Displays the state of the digital input as On, Off or Trouble. • On means that the digital input point is in the Active state as defined on the Digital Input Status form. • Off means that the digital input point is Inactive as defined on the Digital Input Status form • Trouble means that the digital input point has been cut or shorted. **Physical State**: Displays the physical state of the digital input point. • Open means that the contact is open. • Closed means that the contact is closed. • Cut means that the line has been cut. • Short means that the line is shorted. **Date**: Displays the date that the status was requested. **Time**: Displays the time that the status was requested.

How to

1. Review the guidelines in *Table 187* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Digital output status

The Digital Output Status form, Monitors and Controls group, provides a snapshot of the current digital output status in the controllers. A digital output represents an external device, such as lights, sirens, and door strikes that may be connected to the controller.

Status tab

This form displays the status of the selected digital outputs according to the information in the controller's database, by Reader DO or other DOs, by controller or for all controllers.

Figure 132.Status tab

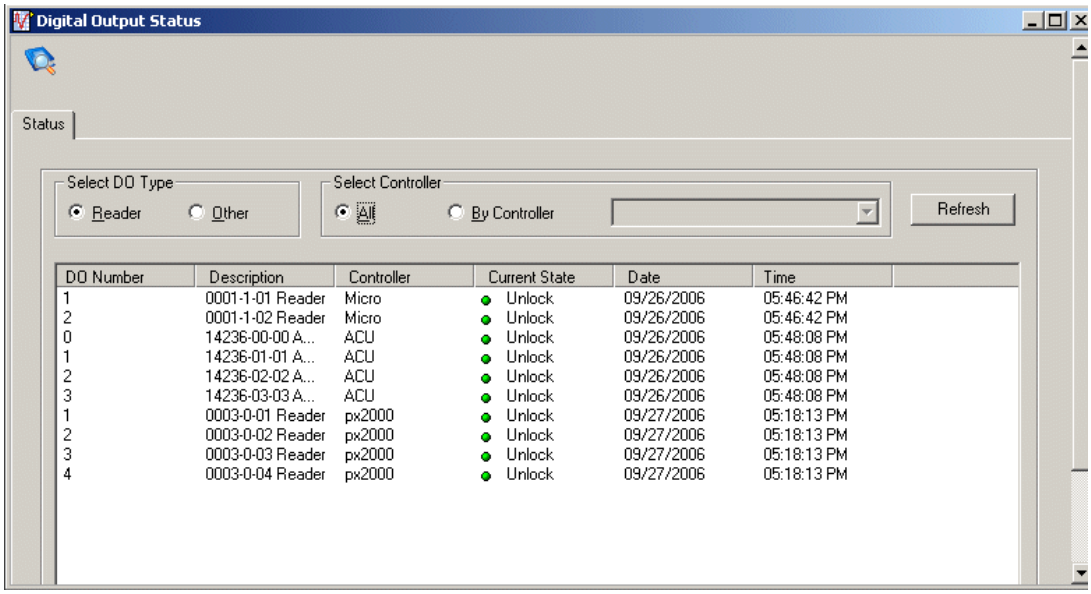

Digital Output Status
Status
Select DO Type
Reader
Other
Select Controller
All
By Controller
Refresh
DO Number
Description
Controller
Current State
Date
Time
1 0001-1-01 Reader Micro Unlock 09/26/2006 05:46:42 PM
2 0001-1-02 Reader Micro Unlock 09/26/2006 05:46:42 PM
0 14236-00-00 A... ACU Unlock 09/26/2006 05:48:08 PM
1 14236-01-01 A... ACU Unlock 09/26/2006 05:48:08 PM
2 14236-02-02 A... ACU Unlock 09/26/2006 05:48:08 PM
3 14236-03-03 A... ACU Unlock 09/26/2006 05:48:08 PM
1 0003-0-01 Reader px2000 Unlock 09/27/2006 05:18:13 PM
2 0003-0-02 Reader px2000 Unlock 09/27/2006 05:18:13 PM
3 0003-0-03 Reader px2000 Unlock 09/27/2006 05:18:13 PM
4 0003-0-04 Reader px2000 Unlock 09/27/2006 05:18:13 PM

Table 188. Form fields

Element	Description
Select DO Type	• Select **Reader** to display the DO points available for the readers. • Select **Other** to display Aux DOs (the two DO relays available on a 2RP module) and other DO points. Example DO points include lights, sirens, and door strikes that may be connected to the controller.
Select Controller	• Select **All** to display the status for the digital outputs of the type selected in the field Select DO type found on all controllers. • Select **By Controller** to display the status for digital outputs of the type selected in the field Select DO type found on a selected controller. Click the drop-down list to display active controllers.
Refresh	Click to get an updated status on the digital outputs. A refresh for a dial-up controller causes the host to dial the controller unless they are already connected. The refresh process may take a few minutes. **Note:** A refresh selected for an offline controller or controller in error is never returned.

Table 188. Form fields (continued)

Element	Description
Column Descriptions	• **DO Number**: Number of the digital output. • **Description**: Description of the door/DO in the database. • **Controller**: Number of the controller on which this digital output is found. • **Current State**: Displays the state of the digital output. • **Date**: Displays the date that the status was requested. • **Time**: Displays the time that the status was requested. If this is a reader DO, the states are: • **Lock**: The door is locked. • **Unlock**: The door is unlocked. If this is any other DO, the states are: • **Active**: The digital output is in the Active state defined on the Digital Output form. • **Inactive**: The digital output is NOT in the Active state.

How to

1. Review the guidelines in *Table 188* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Graphics Console

Note: This option is available if you are licensed for Graphics Console.

This option and related features are covered in detail in the *Graphics Console User Manual.*

The Graphics Console option, Monitors and Controls group, opens the Graphics Console application that allows you to view the maps of your facility that were created in the Graphics Editor. These maps point out the location and type of incoming alarms as they occur, such as a door held open alarm. Operators can issue commands and launch applications, such as locking and unlocking doors.

Graphics Console consists of four applications that allow you to edit, link, and monitor graphic maps. These applications are:

- Graphics Preferences
- Symbol Editor
- Graphics Editor
- Graphics Console

Graphics Preferences

Note: This option is available if you are licensed for Graphics Console.

This option and related features are covered in detail in the *Graphics Console User Manual.*

Graphics Preference allows you to set preferences for a graphics map. You can define the number of layers that can be used to separate object types and the rate at which links blink to identify a graphics map in alarm.

Symbol Editor

Note: This option is available if you are licensed for Graphics Console.

This option and related features are covered in detail in the *Graphics Console User Manual.*

Symbol Editor allows you to associate object types, such as doors, readers, digital inputs, or controllers with icons representing properties and conditions. Use the Symbol Editor to create, delete, save, upload, and download symbol schemes.

Graphics Editor

Note: This option is available if you are licensed for Graphics Console.

This option and related features are covered in detail in the *Graphics Console User Manual.*

Graphics Editor allows you to place symbols representing devices such as doors, readers, digital inputs, or controllers on graphics maps. For example, start with a floor plan and place symbols on the map to indicate their location, and then link these symbols to a physical device. In addition, you can add text to create labels and print the graphics maps. The Graphics Editor also allows you to import .gif, .jpg, .jpeg, or AutoCAD .dxf files to be used in creating your graphics maps.

Graphics Console

Note: This option is available if you are licensed for Graphics Console.

This option and related features are covered in detail in the *Graphics Console User Manual.*

Graphics Console provides a graphical view of the premises and allows an operator to locate alarms or events as they occur, such as a door held open alarm. Operators can issue commands, such as locking and unlocking doors.

Manual control form

Note: Functions associated with a *SCIF* workstation cannot be controlled with the Manual Control form.
EXCEPTION: If you are at the SCIF workstation that is hosting the controller, door, DO, alarm, and DI functions can be controlled.

The Manual Control form, Monitors and Controls group, allows the operator to perform the following, depending on the operator's facilities and permissions:

- Manually lock/unlock doors
- Turn on/off DO (digital output)
- Monitor on/off alarms and alarm groups
- Enable/disable DI inputs
- Arm/disarm Areas and Intrusion Zones
- Change the mode of a controller
- Start/stop a Guard Tour

Refer to the individual tab controls for additional information regarding the available functions.

Reader/Dgital Output tab

Note: Functions associated with a *SCIF* workstation cannot be controlled with the Manual Control form.
EXCEPTION: If you are at the SCIF workstation that is hosting the controller, functions can be controlled.

Manually lock or unlock doors and turn on or off DO (digital output) points, depending on the current operator's facilities and permissions.

Note: Schedules override manual changes unless Indefinite Unlock has been selected. Controllers always run schedules defined previously in its database. Therefore, if there was a schedule set to be in effect at the current time, the manual change would be overridden and the schedule would be enforced.

Figure 133.Reader/Digital Output tab

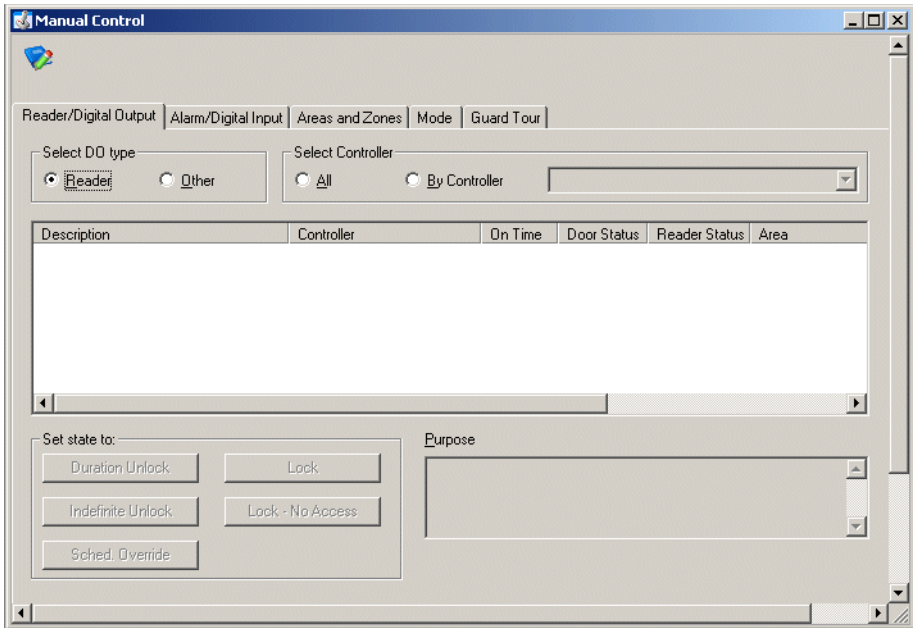


Table 189. Form fields

Element	Description
Select controller	**Note:** A controller must be selected before the system searches and displays results in the list box. • **All** displays all the digital outputs of the type selected in the field Select DO type, found on all controllers. • **By Controller** displays all the digital outputs of the type selected in the field Select DO type, found on a selected controller. Click the drop-down list to display a list of controllers.
Select DO type	• If you select **Reader**, the windowpane displays the DO points available for the readers. • If you select **Other**, the windowpane displays Aux DOs (the two 2 DO relays available on a 2RP module) and other DO points. **Example**: DO points include lights and sirens that may be connected to the controller.

Table 189. Form fields (continued)

Element	Description
Columns in Windowpane	**Description**: Description of the reader/DO in the database. **Controller**: Controller on which the reader/DO is located. **On Time**: Displays the On Time in the database. The On Time is the number of seconds this DO remains in the active state when activated. **Door Status**: Displays as Locked or Unlocked. **Reader Status**: Displays Online if the reader is currently online and Offline if the reader is currently offline. **Area**: (*This selection is for systems with ACU controllers.)* The secure Area associated with the controller. **SCIF Workstation**: If a SCIF Area is assigned, the name of the SCIF workstation displays here. **Controller Type**: Displays the type as a Micro or ACU controller.
Set state to:	**Note:** The names of the buttons change depending on the DO type (Reader or Other) selected. **If Reader is selected, click . . .** • **Duration Unlock**: To unlock the selected door for the time specified in the On Time column. • **Lock**: To immediately lock the selected door. • **Indefinite Unlock**: To unlock the selected door. It remains unlocked until you manually lock it by clicking lock. • **Sched. Override**: (This option is not available for ACU controllers.) To change the state of a door or DO, if you want a schedule to override its setting. Example: Use Sched. Override to unlock a door if you want a schedule at a later time to lock this door. If you don't want the scheduler to lock your door, use the Indefinite Unlock selection. • **Lock - No Access**: To lock down all readers. No transactions are allowed until those readers are put back to lock or unlock mode. The host tracks Lock - No Access. This allows the readers to be taken out of the Lock - No Access mode when the next action is performed, if it is a state other than Lock - No Access. - For micro controllers, when a door is unlocked, a valid credential displays as invalid. - If a database download is performed after putting the readers into Lock - No Access state, it reverts to the normal reader state defined by the reader record. **If Other is selected, click . . .** • **On For Duration**: Activates the selected DO for the time specified in the On Time column. • **Off**: Immediately deactivates the selected DO. • **On Indefinite**: Activates the selected DO, which remains active until you manually turn it off by clicking Off. • **Sched. Override**: (This option is not available for ACU controllers.) Use this option to change the state of a DO if you want a schedule to override its setting.
Purpose	This field accepts 255 characters. Enter an explanation for locking/unlocking doors or activating/deactivating DO points. These comments are written to the operator history file and display on the Operator History Report, Purpose Field.

How to

1. Review the guidelines in *Table 189* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Alarm/Digital Input tab

Note: Functions associated with a *SCIF* workstation cannot be controlled with the Manual Control form.
EXCEPTION: If you are at the SCIF workstation that is hosting the controller, functions can be controlled.

Manually monitor alarms and DIs (Digital Input points) depending on the current operator's facilities and permissions.

Note: There may be schedules in effect that override manually controlled changes if schedule override is selected; otherwise, the manual control selection is truly indefinite.

Figure 134.Alarm/Digital Input tab

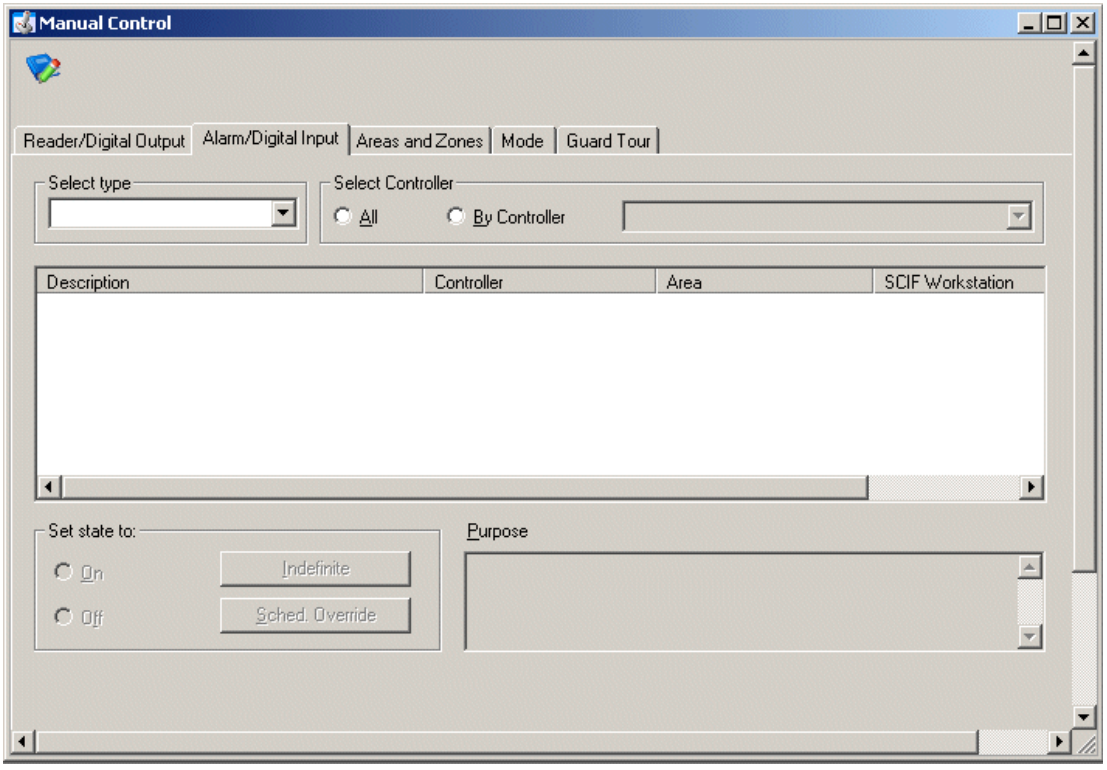


Table 190. Form fields

Element	Description
Select type	Select one of the alarm/DI types from the drop-down list: • Alarms • Alarm Groups • Digital Input **Note:** Nothing displays in the list box until you choose a controller option.
Select controller	Select a controller option. • **All** displays all the selected type of devices in the current operator's facilities for all controllers. • **By Controller** displays all the selected type of devices in the current operator's facilities for a specific controller.
Columns in Windowpane	**Description**: Description of the Alarm/DI in the database. **Controller**: Controller on which the Alarm/DI is located. **SCIF Workstation:** If a SCIF Area is assigned, the name of the SCIF workstation displays here. **Controller Type**: Displays the type as a Micro or ACU controller. **Area:** (*This selection is for systems with ACU controllers.)* Secure Area associated with the controller.
Set state to	**Note:** The names of the buttons change depending on the DI type (Alarm or Other) selected. **If an Alarm or Alarm Group is selected, click . . .** • **Monitor On**: To monitor the selected alarms or alarm groups. Setting Monitor On displays the alarms on the Alarm Monitor form. • **Monitor Off**: To immediately discontinue monitoring the selected alarms or alarm groups. Setting Monitor Off does not display alarms on the Alarm Monitor form. • **Indefinite**: To make the change permanent. This selection does not allow it to be overridden by a schedule (can be monitor ON or OFF). • **Sched. Override**: (for systems using Micro controllers only) To change the state of the monitoring by a schedule override. For example, use Sched. Override to monitor an alarm until a schedule overrides it. If you don't want the schedule to stop the monitoring, click **Indefinite**. **If a DI is selected, click . . .** • **Enable**: To enable the selected DI on the controller so a state change is reported. • **Disable**: To immediately disable the selected DI on the controller so its state changes are not reported to the host or trip a Digital Output. • **Indefinite**: To Enable or Disable permanently. • **Sched. Override**: (for systems using Micro controllers only) Use this option to change operation state of a DI if you want a schedule to override its setting. For example, use Sched. Override to control operation of the DI until a schedule takes over. If you don't want a schedule to control activation of a DI, use the On Indefinite selection.
Purpose	This field accepts 255 characters. Enter an explanation for monitoring an alarm or enabling/disabling DI points. These comments are written to the operator history field and display on the Operator History Report, Purpose Field.

How to

1. Review the guidelines in *Table 190* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Areas and Zones tab

This form allows you to manually control an Area or Intrusion Zone, and take an Area or Zone from one condition (armed) to another condition (disarmed). Items that display in the navigation pane are determined by facilities assigned to the current operator

Example:

- When Armed, readers do not allow access to anyone, alarm points are monitored, and readers ignore schedules.
- When Disarmed, readers allow access and alarms are not monitored.

Figure 135.Areas and Zones tab

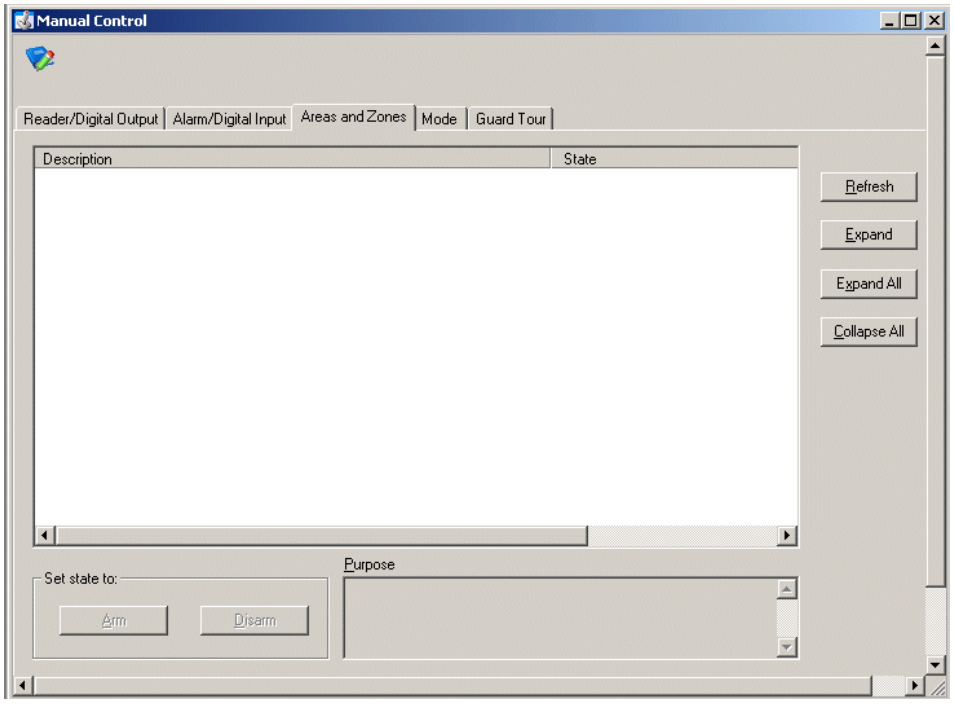


Table 191. Form fields

Element	Description
Navigation Windowpane	***ACU controllers***: Displays configured Areas, controllers, and their associated alarms in a hierarchal structure. Immediately following selection of a controller, the system searches and displays associated Area records in the list box. ***Micro controllers***: Displays configured Intrusion Zones, controllers, and their associated alarms, in a hierarchal structure. Immediately following selection of a Micro controller, the system searches and displays associated Intrusion Zone records in the list box.

Table 191. Form fields (continued)

Element	Description
Columns in Windowpane	**Description**: Description of the elements in this application database. • **Armed**: Area/Zone description displays current condition in red font. • **Disarmed**: Area/Zone description displays current condition in green font. **State**: The current state of the displayed elements.
Refresh	Click to refresh the status of the elements displayed in the windowpane.
Expand	Click to expand a single selected element.
Expand All	Click to expand all levels of the navigation tree.
Collapse All	Click to collapse all levels of the expanded elements in the navigation tree.
Set state to	These buttons are enabled when an Area or Zone description is selected: **Arm**: Immediately arms the selected Area or Intrusion Zone. **Disarm**: Immediately disarms the Area or Intrusion Zone.
Purpose	This field accepts 255 characters. When you select an Area or Intrusion record, this box is enabled. Enter an explanation for arming/disarming. These comments are written to the operator history file and display in the Purpose Field, on the Operator History Report.

How to

1. Review the guidelines in *Table 191* and complete the selections on this tab.
2. Click **Save** before you exit this tab.

Mode tab

Note: The form is enabled for systems using Micro controllers.

Select all or individual controllers or clients for immediate change of mode.

Example: The change of mode for controllers is helpful for an immediate “lockdown” or to open all doors immediately. The change of mode for clients applies to alarm routing and bumping.

When you select this tab, a windowpane displays a list of available online controllers or client groups in your system, based on facility permissions for the current operator.

Figure 136.Mode tab

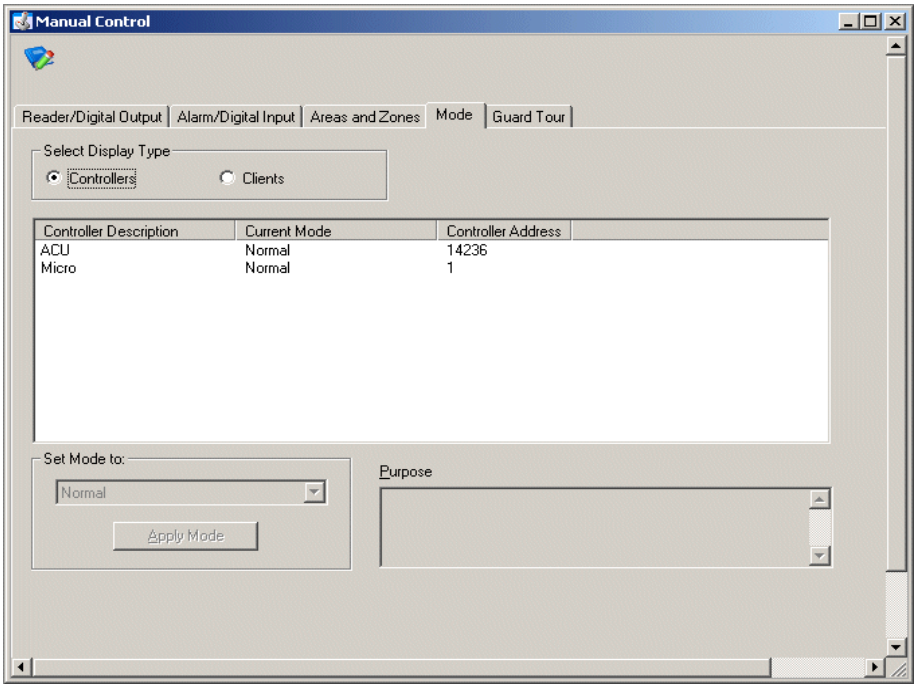


Table 192. Form fields

Element	Description
Select Display Type	**Controllers**: Select to display real time description, current mode, and address of online controllers. **Clients**: Select to display real time current mode for configured Clients.
Set Mode to	From the drop-down list, select one of the available modes to which you want to change. • The Current Mode status, as displayed in the list, refreshes automatically following a change of mode (by schedule or manual control). • Updates for controllers display in the Mode column of the Controller Monitor form. • Updates for clients display on the Client Monitor form.
Apply Mode	Click **Apply Mode** to send the command to the controller or client. Available modes include Normal, Mode 1, Mode 2, and Mode 3. (Modes are created and labeled on the Mode Labels tab of the Preference form.)
Purpose	This field accepts 255 characters. Enter the reason for this change of mode. This comment is written to the operator history file and displays on the Operator History Report.

How to

1. Review the guidelines in *Table 192* and complete the selections on this tab.
2. Click **Save** before you exit this tab.

Guard tour tab

Note: This tab displays if you are licensed for Guard Tour.

The purpose of using this form is to manually start, pause, resume, or stop a Guard Tour that is currently in progress. The upper windowpane displays all Guard Tours configured in your system to which this operator has access.

Figure 137.Guard tour tab

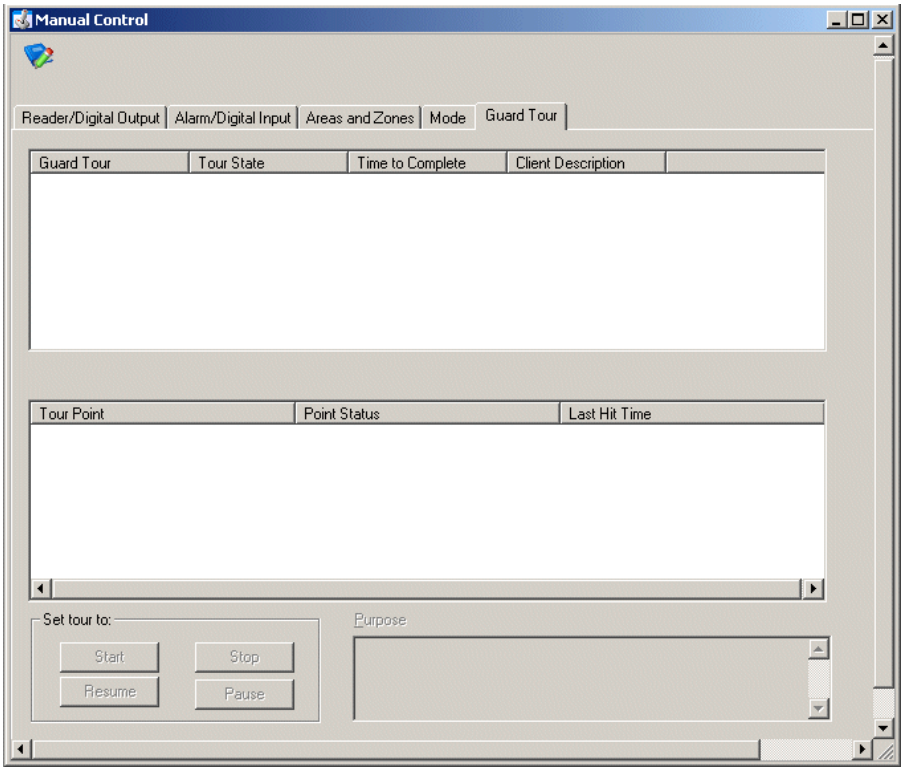


Table 193. Form fields

Element	Description
Upper windowpane	• **Guard Tour**: A list of configured tours descriptions in this application. • **Tour State**: This column displays the current state of all Guard Tours in your system. Typical states are: 1) Tour Started; 2) Tour Not Started; 3) Tour Paused. • **Time to Complete**: This column displays the estimated time assigned for completion of a tour, based on the clock time that this tour started and maximum tour time allowed. If a tour is paused and later resumed before expiration of estimated completion time, the remaining unused tour time is reflected in the Time to Complete column. • **Client Description**: This column displays the client that is hosting the selected tour. A color indicator displays the current connection status of the client that is hosting the selected tour. **Green** indicates online. **Red** indicates offline.

Table 193. Form fields (continued)

Element	Description
Lower Windowpane	• **Tour Point:** This column displays a list of points associated with the selected Guard Tour. • **Point Status**: This column displays a 'hit' or 'not hit' real-time status. You do not have to refresh your window to see the current state of the tour points for the selected tour. • **Last Hit Time**: This column has an entry following a valid 'hit' to this point.
Set tour to	• **Start**: Verify that the appropriate tour is selected in the upper windowpane. Click to manually begin a Guard Tour. The Tour State column indicates 'Tour Started.' • **Stop**: Verify that the appropriate tour is selected in the upper windowpane. Click to prematurely stop a tour in progress. The Tour State column indicates 'Tour Not Started.' This button is not available if a tour is not in progress. • **Resume**: Verify that the appropriate tour is selected in the upper windowpane. Click to resume a tour that was previously paused. The Tour State column indicates 'Tour Started.' This button is unavailable if a tour is not in progress. This button is not available if the time assigned for the selected tour has expired. • **Pause**: Verify that the appropriate tour is selected in the upper windowpane. Click to pause a tour that is currently in progress. The Tour State column indicates 'Tour Paused.' This button is unavailable if a tour is not in progress. • **Purpose**: Specify a reason for stopping or starting this tour. Enter a brief statement about the operator's actions.

How to

1. Review the guidelines in *Table 193* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Transaction override

The Transaction Override form, Administration group, opens with a default record already displaying.

Use this form to manually enter an In or Out status for credential transactions that you want to enter into the selected database. This information can be used by those who create reports to track, view, and verify employee transactions, pair In and Out transactions, or review total transactions.

Example: This form may be appropriate for tailgaters. Polite employees card in to unlock and exit a door, then hold the door for another person exiting the building. The second person may not present their card. If the reader is an APB or T/A reader, you may want to track pair transactions for selected credentials as a record of those that do not card when exiting.

Override tab

Use this tab to set up the credential transaction that you want to enter into history.

Figure 138.Override tab

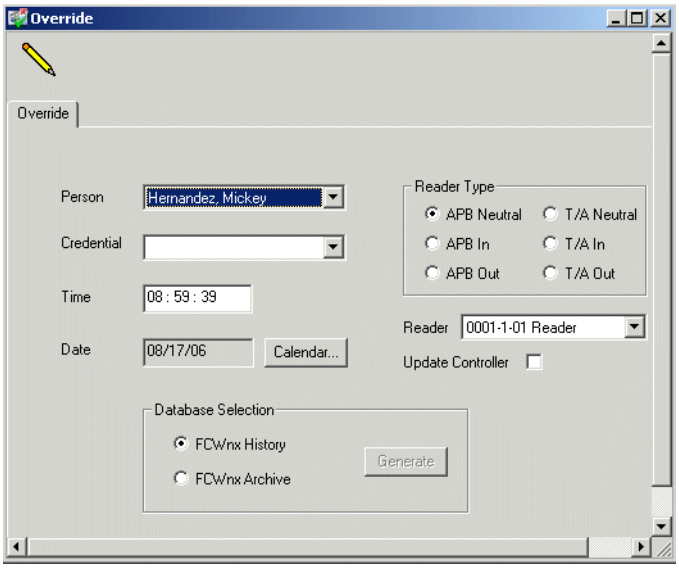


Table 194. Form fields

Element	Description
Person	Select a person from the drop-down list.
Credential	Select a credential from the drop-down list of credentials currently in the database.
Time	Accept the default or select and enter over the default time. **Note:** The current time and date are displayed by default.
Date	Accept the default date, select and enter over the default date, or click *calendar* to enter a date.
Calendar	Click to display the *calendar*.
Reader Type	Select a reader type.
Reader	Select a reader from the drop-down list of available readers for assignment by the current operator.
Update Controller	Enable this field if you want to send this transaction to the controller.
Database Selection	Select either the History database or Archive database.
Generate	Click this button to enter the transaction into the database.

How to

1. Review the guidelines in *Table 194* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

What's next?

Continue with *Chapter 10, Reports on page 327*.

Chapter 10 Reports

This chapter provides an overview of the reporting capabilities within this application.

In this chapter:

Overview 328
Designing reports 329
Tabs on report forms 330

Overview

All reports are selections on the Reports drop-down menu of the main application toolbar.

FCWnx provides extensive reporting capabilities based on your system configuration.

Note: Reports are filtered so that supplied information pertains only to the selected facilities of the current operator.

A list of standard reports is provided below. Seven are history reports. In addition, FCWnx has the ability to access reports created by using a third-party report generator. The following is a brief description of each report:

1. **Person**: Provides person information, such as address and department, on all or a subset of persons in the system.
2. **Credential**: Provides information in areas you select on all or a subset of credentials in the system.
3. **Administration**: Generates reports about the administrative areas of the system. Reports cover alarm instructions, events, event triggers, preferences, operators, permissions, responses, schedules, clients, e-mail notification, and intrusion zones.
4. **Device Configuration**: Generates reports about the devices in the system, such as readers, alarms, cameras, and digital video recorders.
5. **Schedules**: Lists the schedules and events assigned for each controller.
6. **Access**: Provides a list of access rights and persons who have access to specific Areas(s); that is, who has access where.
7. **Floor Access**: Provides a list of floors defined in the system and the access granted to each one.
8. **Area**: Lists the details of secure Areas configured in this application.
9. **Alarm History**: Generates reports on alarm transactions.
10. **Credential History**: Generates reports on credential transactions.
11. **Operator History**: Generates reports on operator actions relating to operations on FCWnx forms.
12. **Zone History**: Generates reports on intrusion zone transactions.
13. **DI History**: Generates reports on digital input transactions.
14. **Guard Tour History**: Generates sets of Guard Tour activities containing start points, hits, invalid points, pauses, resumes, tour end points, and tour time exceeded.
15. **Time and Attendance History**: Generates reports on the number of hours employees were in their facilities.
16. **Area History**: Generates reports on secure Area transactions and activity.
17. **Roll Call**: Provides a list of the last access granted to any or all persons in the system; that is, who last went where based on individual credential activity.
18. **External Reports**: The External Reports option opens the Launch External Reports window, allowing you to access an executable application or report that was not created within FCWnx. For example, you may want to access a report created by a third party report generator such as Crystal Reports or Microsoft Access 2002. Within FCWnx, you can navigate to the application or folder, select the file,

and click **Open**, once the report has been created and saved in a folder. This is a view only function; you cannot launch Access or edit entries.

Designing reports

Template - defined

The **Template** drop-down list on the Report forms displays the name of the currently loaded template, if there is one. To load, select from the drop-down list of the available templates and load the details to the form. Report templates are useful when you run a certain report frequently. After you select a report, it can be saved as a template and revised by loading it from the template combo box.

Report templates window

With any report form displayed, click **Templates**. A list box displays a list of available templates. To use, select the desired template and do one of the following:

Element	Description
Save As	Select an existing template, and then click to save with a new name. A dialog box displays, enabling you to enter a name for the new template. This option is available only when a Report form is displaying.
Save	Select a template, and click to save any changes made to the template preferences. An update message displays.
Remove	Select a template, and then click to delete it from the list. A Delete Template dialog box displays to confirm your choice and the template is deleted.
Make Default	Select a template, and then click to automatically load this template whenever this form is opened. A Default Template confirmation message displays.
Close	Click to close this window without taking any action.

New template dialog

Use this dialog box to create a new template. You are prompted to enter the name of the template you want to create. Keep in mind that any information currently on the report form is saved under this name.

Preview

The Print Preview Report option on the File menu allows you to preview before printing and is available only when a Report form is displaying. A printer must be added to your FCWnx system in order for this feature to be available. Following completion of all tabs and options on the Report form, click to preview a copy of your report.

On the Preview Report screen, the Total: field represents the number of records in the database and not the number of records that matched your search criteria. The zoom % value always reads 100% regardless of the zoom used.

Print report

The Print Report option on the File Menu allows you to send the current report to a defined printer. This option is available only when a Report form or Report is displaying.

Create default template

Select this option on the File menu to create a default Report template. This option is available only when a Report form is displaying.

Note: If a specific date is part of this template, whenever this report is run, it uses that date; therefore, it is important to update the calendar criteria as needed.

Set as default template

Use this option on the File menu to select a template to use as the default template. This option is available only when a Report form is displaying with a loaded template. While the selected Report form is displaying, select Set As Default Template. A message displays stating the current template is now the default template for this form. This template is automatically loaded whenever you open this report form. You cannot undo this election; however, you can later display and assign another report as the default.

Export

This option on the File menu is available only when a Report form is displaying. The Export option allows you to select an export format for your report. There are a variety of formats available including text, Word for Windows, Lotus, HTML, and Excel. Select an export destination for the report to a disk file, exchange folder, Lotus Domino, Lotus Domino Mail, or Microsoft Mail (MAPI).

Delete template

Select this option on the File menu to delete the current Report template. This option is available only when a Report form is displaying with a loaded template.

Tabs on report forms

General tab

This tab displays on several Report forms, but the options vary as noted.

Person, Administration, Device, and Time and Attendance History reports

This form sets the preferences of the report.

Report Title: Enter a title for this report, of up to 64 characters.

Report Type: Select the type of report you want to run.

If this is a Person Report, the following options are available:

- Access Rights Data provides a description of the access this person has, and if access is granted all times in all modes.
- Credential Data provides the credential number, PIN, status, issue, and expiration dates for each credential the person has been assigned.
- Location Data provides the address and telephone number for each person.
- Standard Data provides the last name, first name, initials, personnel description, department, employee number, and extended unlock time. This information is also provided on the other report types for person reports.
- User Data provides up to 90 user fields on each person. You can select which ones to include in the report.

If this is an Administration Report, the following options are available:

- Alarm Instruction provides a listing of alarm messages defined in the system.
- Alarm Notifier provides a listing of e-mail alarm notification information defined in the system.
- Alarm Routing and Bumping provides a listing of schedule descriptions, routing clients, time to bump, bumping clients, routing clients, assigned alarms, and comments.
- Archive provides a listing of all the archive files currently in the Database directory.
- Credential Format (UBF) provides a listing of custom credential format types, data and parity layouts, number of facility and credential characters, and comments.
- Client provides a listing of the clients defined on the system, their Region, auto shutdown selection, and whether they have an Imaging license.
- Event Trigger provides a listing of defined event triggers defined in the system, including Intrusion Zone events.
- Events provides a listing of events defined on the system.
- Facility provides a listing of all facilities defined on the system.
- Floor provides a listing of floor descriptions and their associated floor selection numbers.
- Guard Tour provides information associated with each Guard Tour configured in the FCWnx system, including Groups, Tour Points, and credentials assigned.
- Host Preference provides a listing of information from the Preference form, including database connection timeout, database retry count, e-mail addresses, e-mails sent, and duress.
- Intrusion Zone provides a list of intrusion zones and the controllers that own them.
- Operators provides a listing of operators and their permissions defined on the system.
- Permission provides a listing of permissions defined on the system.
- Response provides a listing of responses defined on the system.
- Schedules provides a listing of time and mode schedules defined on the system.

If this is a Device Report, the following options are available:

- Alarm provides a listing of alarms defined on the system and alarm specific information.
- Alarm - API Connections provides a list of alarm details defined in the system, received through an external interface.
- Alarm - Camera provides a list of camera alarm details defined in the system as well as the DVMRs that own them.
- Alarm - DVMR provides a list of DVMR alarms defined in the system.

- Alarm Group provides a listing of alarm groups defined on the system and the controller that owns the groups.
- Cameras provides a list of cameras and camera details such as camera presets on the system and the DVR(s) that own them.
- Digital Input provides a listing of digital inputs (DI) defined on the system and DI-specific information.
- Digital Output provides a listing of digital outputs (DO) defined on the system and DO-specific information.
- Digital Output Group provides a listing of digital output groups defined on the system and the controller that owns them.
- Digital Video Recorder provides a list of DVRs defined on the system and DVR-specific details.
- Elevator provides a listing of elevators defined on the system and elevator-specific information.
- Controller provides a listing of controllers defined on the system and controller-specific information.
- Reader provides a listing of readers defined on the system and reader-specific information.

If this is a Time and Attendance Report, the following options are available:

- First In Last Out calculates the difference between the first In transaction and last Out transaction within the time period you specify on the Date Range tab. All other transactions are ignored.
- Paired In Out calculates the difference between all In and Out transactions within the time period you specify on the Date Range tab. The earliest In is paired with the first Out following it and both times are displayed together followed by the difference between them in hours. The next In along with its paired Out are displayed together on the next line. This continues until all Ins and Outs have been paired together and displayed.

An error message displays if:

- There is not a matching number of In transactions and Out transactions within a specified time period.
- There are two In transactions without an Out between them.
- There are two Out transactions without an In between them.

Group Records: Select the field by which you want to group the records. This provides the organization of the report. The choices in the drop-down list correspond with the selection of Report Type. This option may not be available on all report types.

Sort Groups: Displays the fields in order of precedence by which the groups are sorted. If this box is empty, click **Add** to display a list of available fields. This option may not be available on all report types.

- **Add**: Click to select the fields by which you want to sort the groups. This displays the Sort Fields dialog.
- **Delete**: Select a field and click to remove a field from the Sort Groups list.
- **Up**: Select a field and click to increase the priority of this field, which determines how the groups are sorted.
- **Down**: Select a field and click to lower the priority of this field, which determines how the groups are sorted.

Fonts tab

This tab displays in all reports and is used to change the fonts on selected text in a report.

Note: Be careful when selecting font styles and sizes. Some styles may not display as desired when printed and some sizes may be too large for the page. Use the Print Preview option to check how the font style and size prints on a page.

- **Title**: To change the current font of the report title, click **Change** to display a list of available fonts, font styles, and font sizes.
- **Header Fields**: To change the current font of the report headings and/or field descriptions within the report, click **Change** to display a list of available fonts, font styles, and font sizes.
- **Group Fields**: To change the current font of the group headings, click **Change** to display a list of available fonts, font styles, and font sizes.
- **Data Fields**: To change the current font of the report information, click **Change** to display a list of available fonts, font styles, and font sizes.
- **Page Footer**: To change the current font of the report footer, click **Change** to display a list of available fonts, font styles, and font sizes. The report footer contains the report title, current system date, and the page number.

Filters tab

Alarm History report form

Use this tab to select the criteria by which this report is generated.

- **Controller**: Select the controller you want to use to generate report information. If you want to use all controllers, select <ALL>.
- **Alarm**: Select the alarm you want to use to generate report information. If you want to use all alarms, select <ALL>.
- **Priority**: Select the alarm priority you want to use to generate report information. If you want to use all alarm priorities, select <ALL>.

Area History report form

This tab allows you to limit the person or credentialholder records printed on this report.

- Credential Number: Enter the range of credential numbers you want listed on this report. Leave blank for all credentials.
- Employee Name: Enter the range of employee last names on which you want to generate a report. Leave blank for all names.
- Employee Number: Enter the range of employee numbers on which you want to report. Leave blank for all numbers.

Area report form

This tab is used only when generating an Area Report. Use this tab to select criteria by which this report is generated, allowing you to narrow the selection of information displayed on your report.

- **Secure Area Description**: Enter the range of area descriptions on which you wish to report or leave both fields blank to generate a report for all Areas.
- **From**: Select an Area description from the drop-down list as the start of the range of Areas on which to base this report.
- **To**: Select an Area description from the drop-down list as the end of the range of Areas on which to base this report.

Credential report form

This tab is used only when generating a Credential Report. Use this tab to select the criteria by which this report is generated.

- **Credential Number**: Select the range of credential numbers you want to display on the report. If you want to list all credentials, leave these fields blank.
- **Credential Status**: To provide additional filtering, you can also select to list only those credentials assigned a selected status.

Credential History report form

Use this tab to select the criteria by which this report is generated.

- **Credential Number**: Select the range of credential numbers you want to display on the report. If you want to list all credentials, leave these fields blank.
- **Employee Name**: Select the range of person last names you want to display on the report. If you want to list all persons, leave these fields blank.
- **Employee Number**: Select the range of employee numbers you want to display on the report. If you want to list all numbers, leave these fields blank.

Device report form

This tab is used only when generating a Device Report. Filter or select specific information you want to display on the report.

- **Device**: From the drop-down list, select a device that you want to use to generate report information. If you want to use all, select <ALL>.

Note: The following exceptions apply:

- If a Camera or Digital Video Recorder was selected as Report Type on the General tab, the Device drop-down list fills with DVRs only.
- If Alarm - API Connections is selected as Report Type on the General tab, the drop-down list contains only <ALL>.
- For all other Report Types, the list fills with controllers.

DI History report form

Use this tab to select or limit the criteria by which this report is generated.

- **DI State**: Select the state of this DI as Set, Reset, Open, or Short. If you want to use all DI states, select <ALL>.
- **Controller**: Select the controller you want to use to generate report information. If you want to use all controllers, select <ALL>.
- **DI Type**: Select the DI type as Alarm, Elevator, or Inactive. If you want to use all DI types, select <ALL>.
- **DI Description**: Enter the range of device descriptions on which you want to report. Leave blank for all descriptions.
- **Controller Description**: Enter the range of controller descriptions on which you want to report. Leave blank for all descriptions.

Operator History report form

Use this tab to select the criteria by which this report is generated.

- **Activity Type**: Enable the activity types on which you want to run the report.
- **Login Name:** Select the operator you want to use to generate report information. If you want to use all operators, select <ALL>.
- **Form Name:** Select the forms you want to use to generate report information. If you want to use all forms, select <ALL>.

Person report form

This tab is used only when generating a Person Report. Use this tab to select the criteria by which this report is generated, allowing you to narrow the selection of information displayed on your report.

- **Employee Last Name**: Select the range of person last names you want to display on the report. If you want to list all persons, leave these fields blank.
- **Department**: To provide additional filtering, you can select to run a report on only those persons in a selected department.
- **Personnel Type**: To provide additional filtering, you can also select to list only those persons assigned a selected personnel type.

Schedule report form

This tab is used only when generating a Schedule Report. Filter or select specific information you want to display on the report.

- **Controller**: From the drop-down list, select the controller you want to use to generate report information. If you want to use all controllers, select <ALL>.

Time and Attendance History report form

Use this tab to select the criteria by which this report is generated.

- **Employee Last Name**: Select the range of person last names you want to display on the report. If you want to list all persons, leave these fields blank.
- **Department**: To provide additional filtering, you can select to run a report on only those persons in a selected department.
- **Personnel Type**: To provide additional filtering, you can also select to list only those persons assigned a selected personnel type.
- **Round By**: Select the criteria by which you want the time of the Time and Attendance transaction rounded by: Hour, Half Hour (30-minute increments), Quarter Hour (15-minute increments) or Minute.

Date Range tab

Roll Call, Alarm History, Credential History, Zone History, DI History, Time and Attendance History, or Operator History reports

Use this tab to select a date and time range on which to base this report.

- **Daily time range**: Reports transactions that occurred between the start and stop time each day in the date range. For example, you select a start time of 8:00 a.m., a stop time of 5:00 p.m., a start day of April 1 and a stop day of April 5. You receive a report of credential transactions occurring between 8:00 a.m. through 5:00 p.m. each day of the day range.
- **Continuous time span**: Continuously reports on transactions that occurred between the start time on the start day to the stop time on the stop day. For example, you select a start time of 8:00 a.m., a stop time of 5:00 p.m., a start day of April 1 and a stop day of April 5. You receive a report of alarm transactions occurring between 8:00 a.m. on April 1 through 5:00 p.m. on April 5.
- **Start Date**: Select the start date range by clicking the desired day on the calendar. To move ahead or back by a month, click the arrows on either side of the name of the month. To move ahead or back by a year, click the arrows on either side of the year.
- **Start Time:** Accept the default start time as displayed or enter a start time.
- **Stop Date**: Enter an end date range by clicking the desired day on the calendar. To move ahead or back by a month, click the arrows on either side of the name of the month. To move ahead or back by a year, click the arrows on either side of the year.
- **Stop Time**: Accept the default stop time as displayed or enter a stop time.

Database tab

Alarm History, Credential History, Zone History, DI History, Time and Attendance, or Operator History reports

Use this tab to select the history database to use for this report. The file name displayed on the tab is the currently selected archive database.

- **Select Archive Database:** Click to select the archive history database.
- **Use default**: Click to use the current history database.

Additional filters tab

Person report

This tab displays ONLY if you have selected User Data in the field Report Type on the General Tab of the Person Report. Use this tab to add user fields as an additional filter for the report.

- **User Fields**: This window lists all the user fields, the user field value you want to use as a filter, and whether the user field should print. (You can print the user field on the report by selecting the field Print selected user field or deselect this field so the user field does not print.)
- **Modify Value:** To change the value of a user field, select the user field you want and enter a new value in this field.
- **User fields printed on report**: If this field is enabled, then the currently selected user field prints on the report.
- **Clear All/Set All**: Click **Clear All** so that none of the User Fields are set to print. Click **Set All** to set all of the User Fields to print.
- **Print selected user field**: Enable this field to set the selected User Field to print or disable this field so that the selected User Field does not print.

Credential history report form

Use this tab to select additional, specific criteria by which this report is generated.

- **Controller**: Select the controller you want to use to generate report information. If you want to use all controllers, select <ALL>.
- **Reader**: Select the reader you want to use to generate report information. If you want to use all readers, select <ALL>.
- **Department**: Select the department you want to use to generate report information. If you want to use all departments, select <ALL>.
- **Activity**: Select the credential activity you want to use to filter report information, such as Duress Invalid, Duress Valid, Duress Valid No Passage, Duress Valid Open, Guard Tour Activity, Invalid, Invalid APB In, Invalid APB Out, Invalid Floor, Invalid PIN, Invalid T&A In, Invalid T&A Out,

Invalid Timed APB, Lost, Max Invalid PIN, Overdue, Override, Unknown, Valid, Valid No Passage, and Valid Open. If you want to use all activities, select <ALL>.

- **Logical Reader Type**: Select the logical reader type that you want to use to limit the report, such as APB In, APB In or Out, APB Out, Elevator, In Required, Normal, T&A In, T&A In and Out, T&A In or Out, or T&A Out. If you want to use all the logical reader types, select <ALL>.
- **Floor Description**: Select the range of floor descriptions you want to display on the report. If you want to list all floor descriptions, leave these fields blank.

Area and Zone History report

Use this tab to select additional, specific source criteria by which this report is generated.

- **Activity Type**: Select the type of activity to use in generating this report. If you want to use all intrusions zone activity type messages, select <ALL>.
- **Location**: Select the source of the zone activity as a Credential, Digital Input, Manual, Controller, or <ALL>.
- **Device Description**: Enter the range of device descriptions on which you want to report. Leave blank for all descriptions.
- **Controller Description**: Enter the range of controller descriptions you want to use to generate report information. If you want to use all controllers, select <ALL>.

Expiration Date filter tab

Credential report

Use this tab to generate a report based on the expiration date of the credentials.

- **Do not filter credentials by expiration date:** Select this field if you do not want to use the expiration date as a method of filtering the report information. This is equivalent to running a report on credentials for all expiration dates.
- **Filter credentials using this expiration date range:** Select this field if you do want to use the expiration date as a method of filtering the report information. If this is selected, you must select a starting and ending date.
- **Starting date**: Click the start date you want for the starting range of expiration dates.
- **Ending date**: Click the ending date you want for the ending range of expiration dates.

Return Date filter tab

Credential report

Use this tab to generate a report based on the return date of the credentials.

- **Do not filter credentials by return date**: Select this field if you do not want to use the return date as a method of filtering the report information. This is equivalent to running a report on credentials for all return dates.
- **Filter credentials using this return date range**: Select this field if you do want to use the return date as a method of filtering the report information. If this is selected, you must select a starting and ending date.
- **Starting date:** Click the start date you want for the starting range of credential return dates.
- **Ending date**: Click the ending date you want for the ending range of credential return dates.

Guard tour tab

Guard Tour History report

Click **Edit** to display the Guard Tour Assignment Dialog Box, enabling you to assign Guard Tours for which this report generates.

The assigned Guard Tours display in the open window pane of this tab.

Reader tab

Roll Call report

Use this tab to select specific readers that form the basis of information for this report.

This windowpane displays the list of readers that currently apply to this report. If there are no readers listed, click **Edit** to display a Reader Assignment dialog box, allowing you to select and add readers.

Areas tab

Access report

Use this tab to select specific Areas that form the basis of information for this report.

This windowpane displays the list of Areas that currently apply to this report. If there are no Areas listed, click **Edit** to display an Area Assignment dialog box, allowing you to select and add Areas.

Appendix A Diagnostics and troubleshooting

This appendix provides information for troubleshooting your system and contacting Customer Support.

In this appendix:

Overview 342
Auto update 342
Check for update 344
Diagnostics overview 344
Logfiles 345
Diagnostic settings 347
When to enable debug messages for a diagnostic object 348
Diagnostic Viewer program 350
Online help 355
Questions and answers 356
Customer Support 373

Overview

While this application was created to be as user-friendly as possible, this section is created to assist you with answers to frequently asked questions, troubleshooting, and settings to assist you in diagnosing problems.

Auto update

Use the Auto Update form, Administration group, to configure your network computer for this application, for automatic notification and installation of the latest Quick Fixes and Service Packs. This feature must be coordinated with your IT Department. They may have certain procedures, restrictions, or security policies in place.To publish an update, three things are required:

1. Patch/update install file.
2. ReadMe file that goes with the installation (optional).
3. The FCWnx.ini file that is the update file for WiseUpdate. The update file is a text file that needs to be manually created with the name FCWnx.ini in the following format:

   ```
   [WiseUpdate]
   Version=7.0.1
   Size=1095391
   Install=http://www.myserver.com/updates/FCWnx701.msp
   ReadMe=http://www.myserver.com/updates/ReadMe.rtf
   ```

   Where **`Version`** is the version of installation that is available on the server, **`Size`** is the size of the installation in bytes, **`Install`** is the URL to the installation of the patch/upgrade, and **`ReadMe`** is the URL to the installation's ReadMe file. If you don't have a ReadMe file, the ReadMe line is omitted from this file.

You can place the installation file and ReadMe at any location on the internet or intranet, as long as their URLs are currently recorded in the FCWnx/ini update file.

Figure 139.Auto update

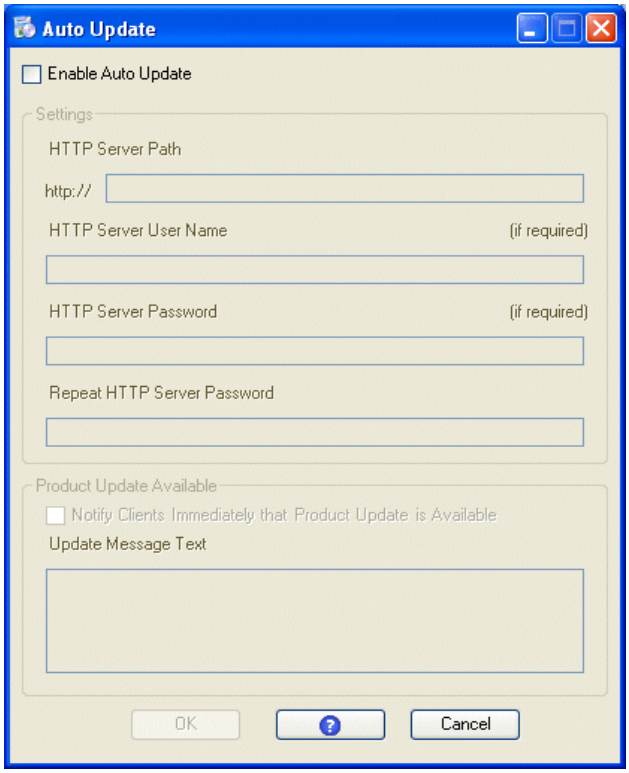


Table 195. Form f field

Element	Description
Enable Auto Update	Select this check box to enable the Check for Update item of the File menu.
Settings	**HTTP Server Path:** This is the Server to which you need to connect in order to search for available updates. This field may look something like the following: **`http://ge-security.com`** **HTTP Server User Name**: Enter the User Name used to reach the HTTP Server, if required. **HTTP Server Password**: Enter the password used to reach the HTTP Server, if required. **Repeat HTTP Server Password:** Enter the password used to reach the HTTP Server, a second time as a security check. **Note:** This application supports Basic Authentication only and not Integrated Windows Authentication.
Product Update Available	**Notify Clients Immediately that Product Update is Available**: Select this check box to automatically notify client computers that a product update is available. **Update Message Text**: In this box, enter a message that displays as a popup, notifying client computers that a product update is available.
OK	Click this button when configuration is complete. The entries on this window are saved.
Help	Click to access the Online Help system.

Table 195. Form f field (continued)

Element	Description
Cancel	Click this button to terminate and close this window. The entries are not saved.

How to

1. Review the guidelines in *Table 195* and complete the fields on this tab.
2. Click **Save** before you exit this tab.

Check for update

This item is enabled on the File drop-down menu of the main application toolbar when the **Enable Auto Update** option is selected and completed on the Auto Update Configuration form, Administration group.

Each time you log in, the FCWnx system checks for updates. Also, at any time, you may select this item to begin a search of the configured Web site for updates to the FCWnx application. This process searches for new upgrades, compares the version, and if the patch or update needs to be applied, a dialog box displays a message.

- Click **OK** to close the dialog box and begin the update process (or click **Cancel** to close the dialog box and process the upgrade at another time).
- If you click **OK** to begin the update, a Wise Update Wizard begins the update process. A series of windows displays. Follow the prompts. When the update is completed, the Wise Update Wizard prompts you to reboot.
- If the Web site cannot be reached, a message informs you that communication failed. Recheck your update configuration settings and try again.
- If no new updates are available for your system, a message displays informing you that your system is up to date.

Diagnostics overview

This application, accessed in the Diagnostics group, provides an extensive and convenient diagnostic utility to turn the monitoring of the FCWnx system components on and off. To display debug messages in the Diagnostics Log within this application, the diagnostics for that component you want to monitor must be turned on. Each client computer has a set of diagnostic objects that represent what can be monitored on that computer. Specific objects are particularly helpful to Engineering when diagnosing an issue.

For each client, this application creates a default logfile (others can be created) for each day of the week such as **`EEFriday.spl`**. This file is overwritten each week, thus creating a new log for that day. During normal operation of this application, informational as well as debug messages are written to the daily log file.

Note: Under abnormal conditions, the log file may also contain warning and/or fatal messages indicating failure conditions. Verify with Customer Support. In order to diagnose a problem, you may be requested to save a log file outside of the log folder, so that the file is not overwritten. That file can be renamed specific to a date or issue.

Additionally, for each client, there is a log located in the **`WINNT\system32`** folder. Under normal system operation, this log is empty. It is used to log messages if the server and the database cannot be reached.

Diagnostic Viewer is a separate program within this application. To access Diagnostic Viewer, select **Diagnostic Viewer** from the Diagnostics group. It operates in 'real time.' That is, every time this application writes an entry to the log file, Diagnostic Viewer automatically displays the latest message. By default, Diagnostic Viewer displays only the latest 1000 messages. The number of displayed messages can be changed on the Diagnostic Viewer, Preferences form.

All log files should be saved in the Logs folder of this application; it is easier to locate for backups and upgrades. It is a shared folder, which means other clients can gain access to the log files.

Remote diagnostics

If you purchased your computer from GE Security, the program pcANYWHERE was included. If you are experiencing problems, this program allows your GE Security Business Partner or Support Center personnel to dial into your computer and observe the situation, thus providing a quicker response and resolution time.

The LogFile form allows you to select your computer, set up a new logfile (establish an identity for the file), and designate a path and directory in which to place your logfile.

Logfiles

The LogFile form, Diagnostics group, allows you to select a computer in your network for this application, set up a new logfile (establish an identity for the file), and designate a path and directory in which to place your logfile. All log files should be saved in the Logs folder; it is easier to locate for backups and upgrades. It is a shared folder, which means other clients can gain access to the log files.

Each client computer has a set of diagnostic objects that represent what can be monitored on that machine. Diagnostic objects can be controlled remotely (turned on or off). All diagnostic objects can write messages to a common default logfile or any diagnostic object can write to a separate log file created and defined by the user.

Before any logfile can be deleted from this application, you must re-assign diagnostic objects to another logfile.

LogFile tab

Click **Add** to create a new logfile record or **Search** to display a list box of previously created LogFiles.

Figure 140.Logfile tab

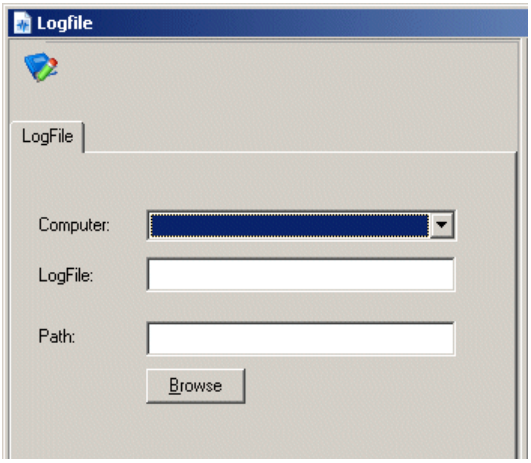


Table 196. Form fields

Element	Description
Computer	This field is unavailable when creating a new record. The name of your computer displays in this field.
LogFile	Name or identify your file. • For FCWnx logfile names, enter an `.spl` extension. **Example**: `COM1log.spl` • For GMC/VMC logfile names, enter `.log` extension. **Example**: `GMC.log`
Path	Designate the path and directory in which to place your LogFile.
Browse	Click to display a Browse for Folder window, allowing you to navigate to the directory in which to place your LogFile.

How to

1. Review *Table 196* and complete the fields on this tab.
2. Click **Save**.
3. Open the Diagnostic Setting form from the Diagnostics group. You want to select this LogFile name from the list of files displayed, and assign components for monitoring.
4. Click **Save** before you exit this tab.

Diagnostic settings

Use the Diagnostic Setting form, Diagnostics group, to select items to monitor using the Diagnostic Viewer program.

Note: Use this form with care. The more items you turn on for monitoring, the more your system performance is affected. This is even more important when monitoring port, communications, or controller items.

Description: Select a diagnostic object name from the list box in the right windowpane. The selected component displays in the Description field as a read-only entry.

Settings tab

Use this tab to enable the diagnostic settings.

Figure 141.Settings tab

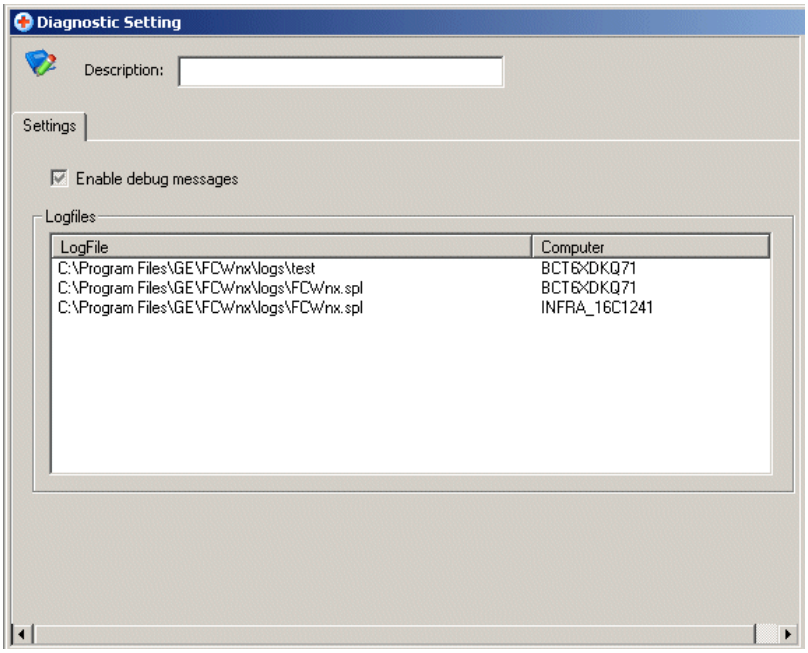


Table 197. Form fields

Element	Description
Enable debug messages	Select this box to enable monitoring for the selected diagnostic object.
Logfiles	Default and newly created logfile names display in the Logfiles windowpane. Select a file name from the list of files displayed, to which you are assigning this component for monitoring. By assigning a component object to write to a particular logfile, you are removing that object from the list of components that write to the default logfile.

How to

1. Review the guidelines in *Table 197* and complete the fields on this tab.
2. Click **Save** to save your new settings before you exit this tab.
3. When you open the Diagnostic Viewer, the activities of your selected component display in the logfile to which it is assigned. (Those items with the COM # and Line # as part of the component name have the highest effect on system performance and hard drive usage. Although you may want to monitor several objects at the same time, this results in a large number of messages and compromises system performance.)

   Note: After viewing, return to the Diagnostic Setting form and disable the debug messages.

When to enable debug messages for a diagnostic object

Table 198. Diagnostic objects and when to monitor

Diagnostic object name	Reasons to monitor debug messages
FCWnx objects	
Diagnostic Manager	If FCWnx Diagnostic Service does not start.
Client	If communication problems exist between the FCWnx Server and it's clients.
Video Management	If the FCWnx Server has a video problem on the Server side (database, application, or device errors).
Video GUI	If an FCWnx application problem exists on the user interface (client side).
SQL	If data returned in an FCWnx application form does not seem accurate. This object monitors and captures SQL statements being generated from the Server and client.
General	To monitor general, nonspecific form activity.
CCTV	If problems exist during CCTV serial communication. For example, alarms can be configured to trigger predetermined cameras on the CCTV Matrix Switcher. If an alarm does not fire at a particular camera, select this object to monitor debug messages in order to determine where the failure resides.
Alarms	If problems exist during alarm activity.
Port Queue	To monitor all network, serial, or dialup data port communication. This object captures data from the Server to the micro controllers. This is a high-level diagnostic object and an Engineer normally translates messages. This data is extremely useful for troubleshooting general data problems between the Server and controllers.

Table 198. Diagnostic objects and when to monitor (continued)

Diagnostic object name	Reasons to monitor debug messages
Manager Service	To monitor FCWnx Manager Service on starting, stopping, connecting to other Servers, and regular processing.
Flash	If problems exist when using eFlash to flash micro controllers using the Controller Monitor form.
System Service	To monitor FCWnx System Service on starting, stopping, connecting to other Servers, and regular processing.
TAPI Loader	To monitor TAPI dial-up connections between the Server and the modem being used for communication with controllers.
TAPI Device	To monitor TAPI dial-up connections between the Server and the modem being used for communication with controllers.
Modem Port Queue	To monitor dial-up modem connections. This object captures data being sent by a Server to a controller using dial-up communication.
Machine	To monitor computer-to-computer communication.
API	If problems exists during API activity.
DI	If problems exists during DI activity.
DBTrigger	If problems exist with database triggers. The triggers are responsible for downloading badge, access rights, and related access data to the controller.
Guard Tour	If problems exist during Guard Tour activities.
DO	If problems exist during DO activity.
Graphics Management	To monitor FCWnx Graphics Management on starting, stopping, connecting to other Servers, and regular processing.
Web Service	To monitor FCWnx WebService on starting, stopping, connecting to other Servers, and regular processing.
GMC objects	
GMC Login Transactions	If GMC fails to launch correctly. Monitor to provide tracing of the attempt by the GMC software to connect to the FCWnx application.
GMC Alarm Events	If alarm status is not updating on graphics maps. Monitor to display what alarm data is being received by GMC.
GMC Digital Input Events	If digital input device status is not updating on graphics maps. Monitor to display what digital input event data is being received by GMC.
GMC Digital Output Events	If digital output device status is not updating on graphics maps. Monitor to display what digital output event data is being received by GMC.

Table 198. Diagnostic objects and when to monitor (continued)

Diagnostic object name	Reasons to monitor debug messages
GMC Intrusion Zone Events	If intrusion zone status is not updating on graphics maps. Monitor to display what zone event data is being received by GMC.
GMC Area Events	If secure area status is not updating on graphics maps. Monitor to display what area event data is being received by GMC.
GMC General Events	If GMC application windows are not launching when requested (for example, attempting to open graphics monitor, graphics symbol editor, graphics map editor, or graphics preferences fails). Monitor to display what application requests GMC is receiving from the FCWnx application.
GMC Action Commands	If commands issued from graphics maps are not being executed. Monitor to display what commands GMC is trying to activate through the SP API.
GMC Database Checking	If GMC is notifying the operator of errors when attempting to access the database but FCWnx does not inform the operator that there are problems with the database. Monitor to display any attempts by GMC to inform the FCWnx application of difficulties accessing the database.
VMC objects	
VMC Platform	This is for internal use only.
VMC Viewer	If the Video Viewer does not display, displays improperly, or items are missing.
VMC Client Media	If there is a problem playing live or recorded video from a camera and the problem exists on the user interface (client side).
VMC Server Media	If there is a problem playing live or recorded video from a camera and the problem exists on the Server side (database, application, or device errors).
VMC Clip Recording	If there is a problem with recording or playing back video clips.
VMC Drivers Client	If there is a user interface (client side) problem that seems to be related to a particular driver. For example, everything for a GE video recorder works well but there is no video for a camera on a Pelco recorder.
VMC Drivers Server	If there is a problem on the Server that seems to be related to a particular driver. For example, everything for a GE video recorder works well but there is no video for a camera on a Pelco recorder.

Diagnostic Viewer program

When you select Diagnostic Viewer in the Diagnostics group, the Diagnostic Viewer program opens. The activities of your selected component are displayed. (Those items with the COM # and Line # as part of the component name have the highest effect on system performance and hard drive usage.)

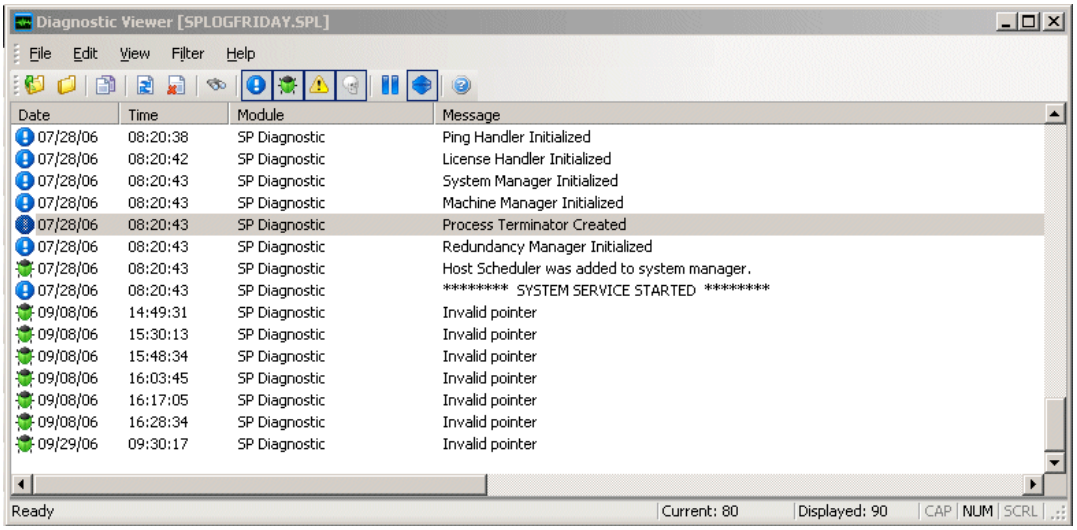
The Diagnostic Viewer application is a diagnostic tool used in conjunction with this application. Diagnostic Viewer allows you to view the contents of the application diagnostic log files, apply filters to limit the information displayed, and search for a specific log entry. Each day, this application writes messages to a diagnostic log file.

There is a default log file created for each day of the week, such as FCWnx**`EEFriday.spl`**. This file is overwritten each week, thus creating a new log for that day.

During normal operation, informational as well as debug messages are written to the daily log file. Under abnormal conditions, the log file may also contain warning and/or fatal messages indicating failure conditions.

Diagnostic Viewer operates in ‘real-time.’ That is, every time this application writes an entry to the log file, Diagnostic Viewer automatically displays the latest message. By default, Diagnostic Viewer displays only the latest 1000 messages. The number displayed can be changed on the Preferences Form. Select this option to set options for the program, such as automatically opening the current day’s default log file.

Figure 142.Diagnostic Viewer


Diagnostic Viewer [SPLOGFRIDAY.SPL]
File Edit View Filter Help
Date Time Module Message
07/28/06 08:20:38 SP Diagnostic Ping Handler Initialized
07/28/06 08:20:42 SP Diagnostic License Handler Initialized
07/28/06 08:20:43 SP Diagnostic System Manager Initialized
07/28/06 08:20:43 SP Diagnostic Machine Manager Initialized
07/28/06 08:20:43 SP Diagnostic Process Terminator Created
07/28/06 08:20:43 SP Diagnostic Redundancy Manager Initialized
07/28/06 08:20:43 SP Diagnostic Host Scheduler was added to system manager.
07/28/06 08:20:43 SP Diagnostic ******** SYSTEM SERVICE STARTED ********
09/08/06 14:49:31 SP Diagnostic Invalid pointer
09/08/06 15:30:13 SP Diagnostic Invalid pointer
09/08/06 15:48:34 SP Diagnostic Invalid pointer
09/08/06 16:03:45 SP Diagnostic Invalid pointer
09/08/06 16:17:05 SP Diagnostic Invalid pointer
09/08/06 16:28:34 SP Diagnostic Invalid pointer
09/29/06 09:30:17 SP Diagnostic Invalid pointer
Ready
Current: 80
Displayed: 90
CAP NUM SCRL

Menus

Options described in the following menu tables also display in the Diagnostic Viewer toolbar.

Table 199. File menu

Open Logs	**Note:** Select this option to open an FCWnx application log file. (.spl extension). This opens a LogFile Dialog window and allows the user to select the file to open. Select the Filename and click **OK**. The logfile displays in the Diagnostic Viewer window. This option is also found on the Diagnostic Viewer toolbar.
Open Other	**Note:** This selection is for GMC/VMC logfiles (`.log` extension). Select this option to open an application log file associated with GMC or VMC diagnostics. This opens a **Launch External Logfiles** window. Select a file with a `.log` extension and click **Open**. The file opens in **Notepad** for your review.
Close	Select to close the current log file.
Delete Contents	Select this option to delete the contents of the current log file. **WARNING: Deleting the contents of a log file causes all messages in the log to be discarded. Once discarded, these messages no longer exist.**
Reload	Select this option to reload the current log file into the viewer. This command is most useful after changing the filter settings.
Properties	Select this option to view the current log file's properties, such as the full path name of the log file, the number of entries that it contains and the number of those entries displayed.
Preferences	Refer to *Preferences on page 354*.
Exit	Select to close the Diagnostic Viewer application.

Table 200. Edit menu

Copy	Select this option to copy the contents of the selected rows into the Windows Clipboard.

Table 201. View menu

Toolbar	Select to display the toolbar menu. This is a toggle selection.
Status Bar	Select to display the status bar. This is a toggle selection.

Table 201. View menu

Auto Scroll	Select this option to automatically scroll to the last of the incoming messages at the bottom of the viewer. As new messages come in while you have Diagnostic Viewer open, the viewer scrolls so that the most recent message always displays in the viewer. If the scroll option is disabled, new entries do not scroll the currently-displayed entries off the screen.
Pause	Select this option to stop the scrolling of incoming messages in the viewer. When paused, select this option again to resume scrolling.
Find	Select this option to search for specific text in the log file.

Table 202. Filter menu

Info	Select this option to enable/disable the display of INFORMATIONAL messages. Informational messages indicate normal system operation. They are always written to the log. On the main Filter drop-down menu, this item is preceded with an icon and if it has been enabled, the messages are displayed. This application writes four types of log messages: INFORMATIONAL, DEBUG, WARNING AND FATAL.
Debug	Select this option to enable/disable the display of DEBUG messages. Debug messages are optional messages, which should be turned on only when diagnosing system operation. Use the Diagnostics Settings form in FCWnx to turn them on or off. **WARNING: Be careful when enabling this option as this adversely affects system performance and use additional hard drive space.** On the main Filter drop-down menu, the Debug option is preceded with an icon, and if it has been enabled, these messages are displayed. This application writes four types of log messages: INFORMATIONAL, DEBUG, WARNING AND FATAL.
Warning	Select this option to enable/disable the display of WARNING messages. Warning messages indicate abnormal system operation. Though the system is behaving abnormally, the behavior is not fatal to system operation. On the Filter menu, the Warning option is preceded with an icon, and if it has been enabled, these messages are displayed. This application writes four types of log messages: INFORMATIONAL, DEBUG, WARNING AND FATAL.

Table 202. Filter menu

Fatal	Select this option to enable/disable the display of FATAL messages. Fatal messages indicate serious, abnormal system behavior. These messages are always written to the log. On the main Filter drop-down menu, the Fatal option is preceded with an icon, and if it has been enabled, these messages are displayed. This option is also found on the Diagnostic Viewer toolbar: This application writes four types of log messages: INFORMATIONAL, DEBUG, WARNING AND FATAL.

Table 203. Help menu

Help Topics	Select to display online Help topics.
About Diagnostic Viewer	Select to display a dialog box describing version information.

Preferences

Use this form accessed on the File drop-down menu of the Diagnostic Viewer application toolbar to set options for the Diagnostic Viewer program.

Figure 143.Diagnostic Viewer Preferences

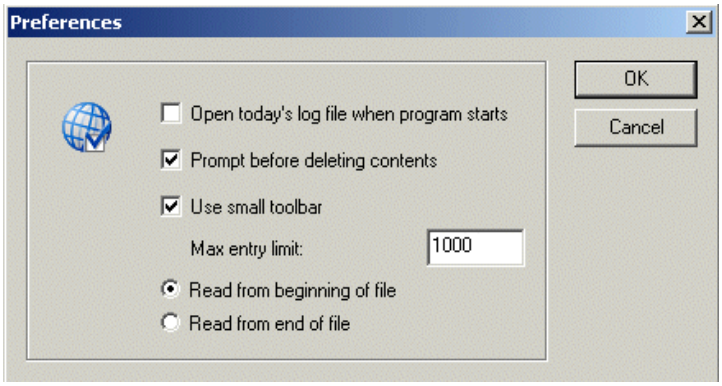


Table 204. Form fields

Element	Description
Open today's log file when program starts	Enable this option if you would like the current day's log file to automatically load when the Diagnostic Viewer program is started.
Prompt before deleting contents	Enable this option if you would like a prompt to appear before deleting the contents of the current log file.

Table 204. Form fields (continued)

Element	Description
Use small toolbar	Enable this option to decrease the size of the toolbar.
Max entry limit	Enter the number of entries you would like to view. You may display up to 50,000 entries from the beginning of the file or the last 50,000 entries from the end of the file, based on your selection of one of the radio buttons below your entry. This option is useful if a log file is extremely large.
Read from beginning of file	Enable this option to open the file with the FIRST or oldest entry in the viewer.
Read form end of file	Enable this option to open the file with the LAST or most recent entry in the viewer.

The current line number, number of entries displayed, and total number of entries in the log are displayed in the status line of the Diagnostic Viewer screen.

Online help

Online help

Online help

Selection of this option starts the FCWnx Help system.

Additionally, with an application form displaying, you can click the **?** icon, then drag the **?** over any area and click again. A window opens with information pertaining to the selected section of your form.

User Manual

Selection of this option launches Adobe Acrobat and displays this manual, the *Facility Commander Wnx User Manual*.

About the application

Selection of this option opens a screen displaying the software version, service pack number, copyright information, licensing information, and contact information.

Questions and answers

Database

Question: ***How can I test the integrity of my database?***

The Integrity utility runs automatically, following a database creation or conversion and upgrade from a previous version of this application. No user interaction is required.

The utility can be run manually if you want to check your database integrity. The system compares and validates the integrity of your database schema. If selected, the system automatically corrects missing or incorrect schema properties such as columns, keys, constraints, indexes, triggers, and tables. The executable file is installed with this application and resides in the program folder.

1. Locate and double-click the `DatabaseIntegrity.exe` file to manually run the utility.
2. Enter the Server Name or click **Browse** and navigate to the appropriate Server Name.
3. Enter the SQL system administrator 'sa' Database Password or accept the encrypted database password of the default Server.
4. Click **Connect** to locate and connect to this application databases. The remaining selections are now enabled. Accept the default options or review and disable selections.
5. Select one of two options:

   Verify that **Check Database Integrity** is selected.

   OPTIONAL: Select the **Autocorrect** check box. This feature runs only once and corrects obvious schema in the database. Results display in a report.

   Note: Autocorrect is not available on a Global configuration.

   Select which databases to check.

   Select **Start** to begin. Wait as the Database Integrity tool compares and validates the integrity of your database. Messages generate to an IntegrityCheck.html file in your application Logs folder.

   OR

   Select **Unlock Database Mutex** to unlock the shared resource. Select **Unlock** to unlock the database mutex for this application's SQL instance.
6. Click **OK** when the Application Success window displays.
7. Click **View Integrity Report** to review the messages generated to an IntegrityCheck.html file in your application Logs folder. Review the file to determine if database errors were detected.

   OR

   Click **Close** to close the window and exit.

   Note: The Replication tab is applicable to systems that have Global configuration installed. We recommend that you call GE Security Customer Support for assistance in setting the preferences for the Global configuration database replication.

Question: *How do I install and use MSDEAdmin utility?*

You are not required to install this utility. MSDEAdmin has been installed for you in the event that database maintenance may be required on a system with MSDE. This utility is used to access and maintain the FCWnx database. This utility also has backup and restore functionality.

1. Navigate to the directory on your computer where FCWnx is installed and locate `Client\MSDEAdmin`. Double-click to open.
2. Double-click `setup.exe` to install the files on your computer and open the Setup Wizard.
3. Select **Repair MSDE Admin**.
4. Click **Finish** and please wait until you are notified that installation is complete.
5. Click **Close** to exit.
6. From the **Start** menu, select **Programs**, then **MSDE Admin** to open the application and access the FCWnx database.

Question: *Why did my services shut down unexpectedly? The log reports with a message, "Database is down."*

This indicates a problem with connectivity to the database. In order not to lose any transactions, FCWnx saves all credential and alarm messages by writing them to a file and read the file back in, when the services start up again. Correct the connectivity problem with the database and restart services.

Question: *Why is performance sluggish and why does it seem to hang? The Windows Task Manager indicates an excessive level of memory usage. The diagnostic log indicates 'Server is too busy to complete operations' or 'Too many resources are allocated.'*

SQL Server can be configured to use a fixed amount of memory or to dynamically adjust the amount of memory based on demand. We recommend that you set the SQL Server memory as follows:

SQL 2000 Enterprise Manager

1. In Enterprise Manager on the selected Server computer, select and then right-click to access **Properties**.
2. Select and display the **Memory** tab of the SQL Properties window.
3. Select **Dynamically Configure SQL Server memory**.
4. Set the Minimum (MB) to no less than a quarter of the allowable limit. Set the Maximum (MB) at approximately half of the allowable MB.
5. Exit Enterprise Manager.

SQL 2005 Server Management Studio

1. On the selected Server computer, click **Connect** and wait as the Server Management Studio opens.
2. Select and then right-click the FCWnx database instance on the navigation tree to the right.
3. Select **Properties**.
4. Select **Memory** page.

5. Set the Minimum Server memory (in MB) to no less than a quarter of the allowable limit. Set the Maximum Server memory (MB) at approximately half of the allowable MB.
6. Exit Server management Studio.

Documentation

Question: ***When the Documentation CD is inserted into the CD-ROM drive, and Web Site is clicked on the menu, why does the GE Security Web Site link open a blank page?***

Reset your Internet Explorer®, Options security setting to enable **Allow META REFRESH**.

Global configuration

Question: ***Converting an existing database to a Regional Server returns error messages and the database creation fails. What do I do?***

Conversion to a Regional Server is not allowed. An existing FCWnx database can only be converted to a Global Database Server.

Question: ***Subscription to Publication `database-name` is invalid. What can I do?***

Run `SELECT @@SERVERNAME` in Query Analyzer on both the Global Database Server and the Regional Database Server. If either name does not match its related Server Computer name, run the following on the affected server:

```
sp_addserver <real-server-name>, LOCAL
```

If this gives an error message stating that the name already exists, then use the following sequence:

```
sp_dropserver <real-server-name>
go
sp_addserver <real-server-name>, LOCAL
go
```

If the error message states, `There is already a local server`, then use the following sequence:

```
sp_dropserver <old-server-name>
go
sp_addserver <real-server-name>, LOCAL
go
```

Stop and restart SQL Server.

Question: ***Event Log contains the following error message. What can I do?***

```
The File Replication Service is having trouble enabling replication from
<remoteservername> for <directory> using the DNS name <remoteservername>. FRS will keep
retrying. Following are some of the reasons you would see this warning.
[1] FRS cannot correctly resolve the DNS name <remoteservername> from this computer.
```

```
[2] FRS is not running on <remoteservername>.
[3] The topology information in the Active Directory for this replica has not yet
replicated to all the Domain Controllers.
This event log message will appear once per connection. After the problem is fixed, you
will see another Event Log message indicating that the connection has been established.
```

Solution 1:

System times may not by synchronized. To resolve, synchronize with the domain controller clock time.

a. Run the following command on all computers to synchronize the clock time with the domain controller:

```
Net time \\(domain controller name) /set /y
```

b. Stop and then restart the File Replication Service on all servers that are experiencing the problem.

c. Open Event Viewer to make sure that the errors are not longer occurring.

Solution 2:

The domain name for the server may not be represented in the DNS Snap-in. Click **Start**, **Programs**, **Administration Tools**, **DNS**. The DNS displays. Expand the node for the domain. Make sure that the Server computer name displays under the domain root. If the Server computer name is not here, but it is in the Active Directory Users and Computers Snap-in, the FRS does not recognize the Server computer as part of the domain.

Question: *I'm experiencing space issues. What can I do?*

Consider cleaning out your FCWnx/Replication folder.

Question: *An error message displays when attempting to add a device to another Region within the Global system. The message informs the operator that addition of the device is in excess of the license limit for that Region. What can I do?*

From the Administration menu, select **Region**. When the Region Form opens, click **Search** and select the Regional Server computer in question from the list box on the right. The License Info at the bottom of this form displays the current licensing capabilities of the selected Region. Review the license capabilities. If limits for a device have been reached, additional devices cannot be added at this time.

Question: *What is Domain Controller Down Time?*

There may be an occasion when the domain controller is inaccessible. In a Global Edition configuration, replication continues; however, be aware that Microsoft® SQL Server® services (MSSQL and SQLAgent) have limitations. Review the following scenarios:

Scenario One: A Database Server, using a domain login, successfully starts. Later, the domain controller becomes inaccessible.
Result: SQL services and replication continue normally, without interruption.

Scenario Two: A Database Server, using a domain login, successfully starts. Later the domain controller becomes inaccessible. The Database Server computer is rebooted.
Result: SQL services and replication continue normally because the assigned security token has not expired for the SQL services domain account. There are limitations of which you should be aware.

Domain login must have been obtained before the domain controller became inaccessible. Consult your IT Administrator for additional discussion about the security token.

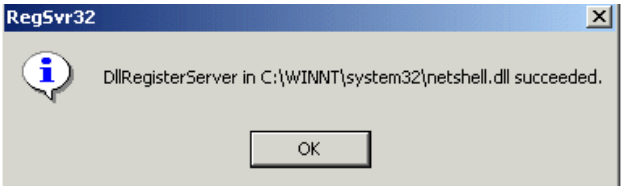
Networking

Question: ***If I lost my network connection, how do I test and reconnect?***

If you lost, cannot see, or cannot change your network connection, you can re-register the **`Netshell.dll`** file by following these steps:

1. Click **Start** and then **Run**.
2. In the **Open** field, enter: **`regsvr32 %systemroot%\system32\netshell.dll`**
3. Click **OK** to display the following:

Figure 144.netshell.dll dialog box

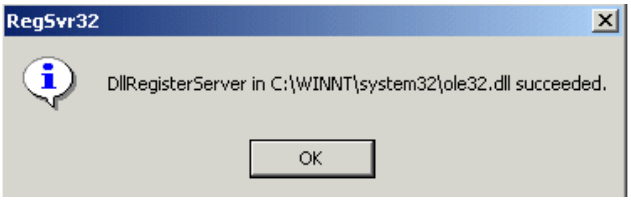


4. Click **OK**.
5. Verify that you can open the properties of your network connection in the **Network Connections** folder of your computer.

- If the issue is resolved and connection to resources is restored, you do not have to perform the following steps.
- If the issue persists and you receive an error message, follow these steps:

6. Click **Start** and then **Run**.
7. In the Open field, enter: **`regsvr32 %systemroot%\system32\ole32.dll`**
8. Click **OK** to display the following:

Figure 145.ole32.dll dialog box



9. Click **OK**.

10. Restart your computer.

Question: *My COM port is not working as expected. What should I do now?*

Use the Micro Utility Form to troubleshoot communications between the host and the micro.

- Make sure the State field shows the micro as Online. If it is Offline, right-click, then select Set Online. If it is Error, then the host is not able to communicate correctly with the micro.
- If this is a direct-connect micro, make sure the Connection field shows Connected.
- Make sure the baud rate setting on the micro matches the baud rate setting for the computer's COM port.
- Make sure the Comm. device field shows the proper communications port for this micro, that is, COM1 for COM port 1.
- Use the Status and Message Queue fields to check the condition of the communications. Refer to the Online Help for information on status messages.

If everything looks all right on the Micro Utility Form, check the hardware settings:

1. Click Start, Settings, and then Control Panel.
2. From the Control Panel window, double-click System, then select Device Manager, then Ports.
3. Check that the baud rate on the host matches the baud rate set for the micro.

Question: *My network micro is not working as expected. What should I do now?*

Follow the same steps as in COM Port Not Working (as discussed above). Verify the micro's IP address from the Comm Device field. If no problems are identified on the Micro Utility form, try pinging the micro using the IP address presented in the Micro Utility form.

For example: `C:\ping 192.9.201.107`

If the `ping` command fails with a `Request timed out` message, verify that the micro IP address is correct, that the micro is operational, and that all the gateways (routers) between this computer and the micro are operational. You receive a reply screen display.

Question: *My domain controller is inaccessible. What is happening to the system?*

There may be an occasion when the domain controller is inaccessible. In a Global Edition configuration, replication continues; however, be aware that Microsoft® SQL Server® services (MSSQL and SQLAgent) have limitations. Review the following scenarios:

Scenario One: A Database Server, using a domain login, successfully starts. Later, the domain controller becomes inaccessible. SQL services and replication continue normally, without interruption.

Scenario Two: A Database Server, using a domain login, successfully starts. Later the domain controller becomes inaccessible. The Database Server computer is rebooted. SQL services and replication continue

normally because the assigned security token has not expired for the SQL services domain account. There are limitations of which you should be aware.

Note: Domain login must have been obtained before the domain controller became inaccessible. You may want to review Microsoft and Windows® publications relating to security tokens. Additionally, consult your IT Administrator for discussion about the security token as applied in your company.

Printers

Question: ***My credential printer is not functioning as expected. What can I do?***

You may use either a printer directly connected to your computer or a printer on the network. For example, you may have two Imaging stations but only one printer.

- If you plan on printing either credential or alarm transactions, at least one of those printers MUST be a line printer, such as a dot matrix that supports a width of 133 characters either by using a wide carriage or printing in compressed mode.
- You can now print credential transactions or alarms transactions from any client workstation printer.
- If you plan on printing credentials, you must use a GE-approved Imaging printer. Contact your GE security business sales representative for a list of supported printer models. For directions on installing the drivers for this printer, refer to the appropriate GE documents or the instructions that came with your printer.
- If you purchased this system with this printer from GE, the DataCard drivers are installed for you.
- To print credentials, the default printer MUST be the Imaging printer. However, this means that the Print Preview Report (File menu) does not display accurately. You need to select your report printer BEFORE you preview a report.
- To select a different printer, from the File menu, select **Print Setup** and then your report printer.

  If your printer is networked, you may be required to adjust the security properties. At the computer that owns the printer, navigate to the Properties window for the selected printer. Click **Start**, **Settings**, **Printers**. Select the printer and then right-click. From the shortcut menu, select **Properties**. On the Security tab of the Properties window, proceed to add **Anonymous Login** to the **Group or user names**.

Readers

Question: ***What is the maximum number of readers per controller?***

That depends on the controller. Refer to the Licensing Capacities table of your *Installation Manual*.

Setup

Question: *How do I identify the ports used for FCWnx communication?*

We recommend that you configure your FCWnx system with the Windows firewall ON. In order for your system to perform successfully, FCWnx opens communication ports for you. These are the default port setting values used by FCWnx for communication between Servers and clients:

Element	Description
6699	Controller Communications Port
135	Client Workstation/Server Communications Port (RPC):
1024	GE Security DVMRe/StoreSafe Communication Port:
8088	Server Workstation Video Streaming Port:
8085	Start Video Communications Port Range (24)
SQL	**MS SQL 2000 user**: This port number can be obtained from your Server Computer. At the Database Server computer for this client, click **Start**, then **Run** and enter `svr-netcn.exe`. Click **OK**. When the **SQL Server Network Utility** window displays, select **TCP/IP** and click **Properties**. The port number displays. **MS SQL 2005 user**: This port number can be obtained from your Server Computer. At the Database Server computer for this client, click **Start**, select **Programs**, **Microsoft SQL Server 2005**, **Configuration Tools**, then **SQL Server Configuration Manager**. When the **SQL Server Configuration Manager** opens, expand the navigation tree for SQL Server 2005 Network Configuration to display **Protocols for SPSQL**. Right-click **TCP/IP**, select **Properties**, and then the **IP Addresses** tab. The SQL port number displays in the **IPAll**, **TCP Dynamic Ports** field.

Question: *I get a connection error when I try to start the client software. What should I do now?*

1. Make sure that your network client is defined in the Client Form.
2. Check the bottom of the Client Monitor Form and verify that there is at least one license available.
3. Verify that you are using TCP/IP as your network protocol and that it is configured properly.
4. Verify that the network protocol you are using is installed on both the client and Server computers.
5. On the Server computer, go to the Services form and check services. If the Status column is blank for that service, then it is not running. Select the service line, and click the Start button:
   - If the status changes to Started, then the service is now running. Try to start the program now. If the program still won't start, the network may be down. Check the current day's log on the network client.
   - If the status does not change to Started, check the current day's log of the server log. It should display an error message providing a reason for shutting down.

Question: ***System Service does not start. What is the reason?***

- The Service cannot access the database.
- The client machine name is not in the client table.
- The services on the Database server are not running.
- System service on the local machine does not start.
- The local machine did not receive a ping from the license domain machine within the ping timeout interval (check that the license domain services are running).
- Client license count may have been exceeded. Refer to the Licensing Capacities table of your *Installation Manual*, for supported capacities.

Question: ***What does this message mean? "Maximum Number of Clients Limit Reached?"***

The maximum number of clients are already connected to the server. Refer to the Licensing Capacities table of your *Installation Manual*, for supported capacities.

Question: ***Why aren't the supervised DI points on my 2SRP module working?***

Check the module addresses on the reader modules in your controller. They must be consecutively numbered. This means that the first reader module must be set to Address 1, the second reader module must be set to Address 2 and so on.

Question: ***What's good to know about dial-up troubleshooting?***

Dial-Up Troubleshooting Tips: While some information is automatically saved to the logfile, you can decide whether certain items (ports, lines, controller, or forms) are sent to the logfile. Select Diagnostic Setting from the Diagnostics group. For more persistent problems, this application provides an extensive diagnostic utility, Diagnostic Viewer. The Diagnostic Viewer application allows you to view the diagnostic log file, apply filters to view information, and search for a specific log entry. Diagnostic Viewer has its own Help system for additional information.

Your Diagnostic Viewer program Logfile indicates modem status by displaying one of two possible messages:

Message 1: The following modem is not functioning properly: <modem name>.

Message 2: The following modem is functioning properly: <modem name>.

Where <modem name> is the name of the modem, such as Hayes Accura 33.6.

Message 1 displays on the Logfile every 90 seconds following a period when the modem is NOT operating, until the modem is available and operational again. Verify the following:

- Selected modem on Preference form is identical to the modem you want to use. (If the modem you want to use is not on the list of available modems, you may have to reinstall the driver for the modem or select another modem.)
- Modem is turned on.
- Comm port connection is complete.
- Connection is plugged in properly.

- Modem settings are correct. (Maximum speed value of 9600 applies to MOST modems. If you are having problems using this setting, refer to your modem manual for more information.)

Message 2 displays ONE time only, and that is when your modem returns to operational after a period when the modem was NOT operational.

The Controller Monitor form indicates that the controller dedicated to a modem is in an error state.

Question: *Why does the host dial a controller?*

Whenever a change is made to a form that requires an update to the controller database, such as changes to the Person form, the host dials the controller with the changes.

If you make many changes, the controller may go to idle between your changes causing a disconnection with the host. Then, the host needs to dial the controller back to download the next change. You have two options available to work around this situation:

1. Increase the idle time (found on the Preference form, Communication Settings tab) on the controller that gives you more time to make the changes. Server services must be restarted for the changes to take effect.
2. Put the controller offline, make the changes and then put the controller online. The host automatically dials the controller and downloads the changes.

Setup: RAID Server

Question: *The RAID Server, Event Viewer Systems and Applications Log indicates a drive failure. (Periodically checking the Event Viewer helps detect drive failures.) What can I do now?*

The specifics of your error and warning messages can be determined by consulting the manufacturer's documentation or Customer Support for your brand of hardware.The steps that follow are intended to be a guide in the recovery of a Dell PowerEdge system with a PERC 3/SI RAID 1 controller, in the event of a system failure. For specific details, refer to the documentation shipped with your Dell PowerEdge system. Continue with the following:

'RAID disclaimer" on page 365
'RAID recovery: what you need" on page 366
'Replacing a RAID failed hard drive" on page 366
'Installing OpenManage Server Assistant" on page 366
'Installing the operating system" on page 367
'Installing Dell OpenManage RAID Array Manager" on page 367
'Installing MS SQL Server 2000/2005 on the RAID server" on page 368

RAID disclaimer

GE recommends that installations that implement RAID Server configurations use RAID 1 configurations. RAID 5 configurations are not recommended for the database due to possible transaction load issues. RAID 1 configurations provide 100% data redundancy by disk mirroring.

Some customers may implement a combination of RAID 1 and RAID 5 configurations supported on one Server. This can be a valid configuration if the operating system and miscellaneous files are isolated on a RAID 5 configuration, while the database resides on a RAID 1 mirrored disk drive configuration.

Note: You should only use RAID 5 for your operating system boot partition if your RAID 5 solution is hardware-based. Hardware-based RAID solutions are provided by Dell's line of PowerEdge servers available to order directly from GE Security.

For those systems that have already been configured, and the location of the databases needs to be corrected, GE have created step-by-step procedures when moving the database files. The procedures are located in the Technical Bulletin section of the GE security business Web site. Go to `www.ge-security.com` for additional information.

RAID recovery: what you need

In order to perform a recovery, you need the following items:

- Dell OpenManage Server Assistant™ CD Version 7.2 or later (provided with your Dell Server)
- Dell OpenManage Applications CD Version 3.2 or later (provided with your Dell Server)
- Dell Online Documentation CD (provided with your Dell Server)
- Dell PowerEdge Systems Installation and Troubleshooting Guide (provided with your Dell Server)
- Microsoft Windows 2000 or Windows 2003 Server CD and applicable Service Pack
- Microsoft SQL Server 2000 or 2005 CD (Standard Edition) and latest applicable Service Pack

Replacing a RAID failed hard drive

Note: For optimum results, GE recommends that the drive be powered off before it is removed or replaced. A loss of data or data corruption may occur if disks are replaced without powering off.

Replace the damaged hard drive with another hard drive with the same capacity, then restart the system. The RAID controller automatically rebuilds the mirror hard drive.

For instructions on replacing a failed hard drive, refer to the documentation shipped with your Dell PowerEdge System.

Installing OpenManage Server Assistant

The Server Assistant software provides tools to set up and configure the PowerEdge system components and software. Installation includes drivers, diagnostics, and utilities. Refer to the documentation and instructions shipped with your Dell PowerEdge System.

If you have a complete system failure (where both hard drives are damaged) or your system has no operating system installed, follow the steps below:

1. Set up the speakers, monitor, mouse, and keyboard as directed by the documentation provided by Dell.
2. Attach the AC adapter and plug the power cable into a grounded power outlet.
3. Insert the Dell OpenManage Server Assistant CD into the CD-ROM drive.
4. If prompted, select the appropriate language.
5. Accept the terms of the **Software License**.

6. When **Welcome to Dell OpenManage Server Assistant** opens, verify that the language is correct, then click **Server Setup**.
7. The **Server Setup** window displays.
8. Set the **Time Zone** and **Day**, **Date**, and **Time**, then click **Start Server Setup**.
9. When the **Configure RAID Controller** window opens, select **RAID-1** and set the **RAID Virtual Disk Size** to **Maximum**. Click **Configure RAID**.

   Note: If a window opens asking if you want to delete the existing virtual disk, click Yes. You are then prompted to reboot. Click OK.

Installing the operating system

Refer to appropriate section of the *Installation Manual* for details and instruction to configure the operating system.

Installing Dell OpenManage RAID Array Manager

Follow the instructions below to install and configure the Dell OpenManage RAID Array Manager.

1. Insert the Dell OpenManage Applications CD in the CD-ROM drive. The CD autoruns unless this function has been disabled. If disabled, click **Start**, **Run**, then **Browse** to navigate to the drive containing the CD-ROM, then select **setup.exe** to display the **Dell OpenManage Installation** window.
2. Click **Next**.
3. At the **Software License Agreement**, click **Accept** to continue the installation. The **OpenManage Installation Wizard** displays.
4. At the **Select setup type** screen, click **Express Setup**.
5. At the **Select system type** screen, click **Both** to indicate that you are installing both **Managed Node** and **Management Station**. A summary window displays the installation options you have selected and gives you an opportunity to verify the installation criteria, make corrections, or abort the installation. When you are satisfied with the summary, click **Next**.
6. You are prompted to verify all options by asking, **Are you sure?** Click **Yes** to begin the installation. A progress monitor displays, listing the components being installed and the installation of applications proceeds. When installation of all components is complete, you are asked to reboot the computer.
7. Reboot your computer at this time. An icon displays on the desktop, labeled IT Assistant. You can access the Disk Array software from the icon or the group created in the **Start** menu.
8. After the computer restarts and you log on, a message displays, stating that the Windows Server application, Disk Administrator, has been replaced by the Dell OpenManage Array Manager. If, for some reason, you later uninstall the Array Manager software, the Windows Server Disk Administrator is restored to the pre-installation configuration.
9. Double-click the IT Assistant icon on the desktop to display **Logon Information**. By default, you are given the choice of **Read only** access to monitor the status of the Disk Array. You may also select **Read/Write** access allowing you to make changes and configure the various preferences of the RAID

Array and the files contained on the disk. For this configuration process, we need **Read/Write** permissions.

10. Select **Read/Write** access and click **OK**. You do not need to provide logon information unless someone has already configured and secured the system and you are making changes to the previous configuration.

    Note: When the program opens for the first time, a message displays stating, IT Network Monitoring Service is not configured for discovery; would you like to configure now? Click **No** to close the window and return to the main screen for IT Assistant.

Installing MS SQL Server 2000/2005 on the RAID server

Refer to the appropriate chapter in the *Installation Manual* for details and instruction to configure SQL Server.

Software

Question: ***What software and firmware versions are supported in FCWnx components?***

The following are minimum requirements for FCWnx system components.

Element	Description
NET Framework	.2.0 (automatically installs with FCWnx if not already there)
Acrobat Reader	5.x or later to view manuals online. Version 7.0 is provided on the FCWnx Documentation Plus CD for your convenience.
DVR	Refer to *Define digital video recorders on page 188* for a list of devices and supported firmware versions.
Internet Explorer	6.1 or later with applicable service pack
MDAC	2.8 or later with applicable service pack
MS SQL	MSDE Service Pack 4Server 2000 Standard Edition, Service Pack 4 or later Server 2005 Standard Edition, Service Pack 1 or later
Symantec pcANYWHERE	9.3 or later

Question: ***Can I customize the toolbars and add more buttons?***

No. The toolbars cannot be customized.

Question: ***How do I perform a search on a specific item?***

The Search button can be found on any form that provides search capabilities. If you click this button when the current form is blank, all records are returned. To specify criteria, fill in the information.

Example: If you want to find all credentialholders with the last name Smith, enter Smith in the Last name field and click **Search**.

You can also use the * character that allows you to search for patterns.

Example: A search for credentialholders with the last name starting with Sm* would yield such names as Smith and Smythers.

Question: *How do I display underlined letters for keyboard navigation?*

This is an Effects option in the Display settings of your computer. To change this setting:

1. Click **Start**, **Settings**, **Control Panel**, and then **Display**.
2. Double-click **Display** to open the Display Properties window of your computer.
3. Navigate to the Effects options of your computer. This may vary, depending on your operating system.
4. Clear the selected option that reads, "Hide underlined letters for keyboard navigation until I press the Alt key."
5. Click **OK**.
6. Close the Control Panel.

Question: *Why can't I delete a record?*

Some forms, such as the Digital Output Status form and the Manual Control form, do not contain a Delete button because they display only status information. Other forms, such as the Reader form, Alarm form, Alarm Group form, Digital Output form, and the Digital Output Group form, also do not contain a Delete button.

To keep the system stable, NO ONE is given permission to delete these records, not even a System Administrator. These records are deleted when the associated controller is deleted. However, on other forms, you may be assigned delete permission. If you can’t delete on those forms, you do not have permission to delete.

Question: *No readers display in the reader list box. Why?*

Only readers assigned Active are displayed in the list box. Go to the Reader form and click the Reader tab. Verify that the readers you are using are assigned Active.

Question: *Why are there no alarms displayed on the Alarm Monitor form?*

Go to the Alarm form and click the Alarm tab. Make sure that the Monitor option is On. Also, check the schedules. There may be one in effect that does not route certain alarms to the Alarm Monitor form.

Question: *I deleted all the records on one of my forms. I clicked Add to add a record and the text <deleted> displays and sometimes information from the previous record. How do I get rid of the text <deleted>?*

To correct this, click **Clear**, and then click **Add**.

Question: ***Our site uses this application in two languages. Sometimes, when we log in, the Help files are not in the correct language. Why?***

This occurs when you are using either a non-English operating system or this application in non-English and you did not correctly shut down this application. To eliminate this problem, you **MUST** select the File menu and then **Exit** to correctly shut down this application.

Question: ***How do I remove an alarm from the Alarm Monitor form?***

When an alarm displays on the Alarm Monitor form, appropriate action should be taken. For example, you may want to send a guard out to check that a door is secure. Once the alarm has been investigated and reset, if necessary, it should be removed from the Alarm Monitor form.

1. Some alarms may require an acknowledgment before they can be removed. This feature is set on the Alarm form. To acknowledge the alarm:

   Without a response, click **Acknowledge** and the Process state for that alarm changes to Acknowledged.

   With a response, click **Responses** to select a predefined response or enter your own in the Response field. Then, click **Acknowledge** and the Process state for that alarm changes to Acknowledged.

2. To remove an individual alarm without waiting for it to reset, highlight the alarm and click **Remove Individual**.

3. If you have permission, you can remove all alarms in one action by clicking the **Remove All** icon.

Question: ***How do I troubleshoot my Global system?***

Review the following:

- *Global configuration regional rules on page 44*
- *Replication and synchronization conflicts on page 46*
- Review the *Installation Manual* chapter covering ‘Installing a Global Configuration.’ Confirm and review your configuration options, then review the Troubleshooting section.
- Refer to Microsoft Replication software documentation in printed and electronic format.

Terminal services

Question: ***I cannot capture and print with terminal services.***

Capturing images requires the camera to be attached to a computer where the person is located, which is not the case with terminal services. However, images can be captured elsewhere, saved to file, and loaded to FCWnx.

Printing credentials with terminal services is similar to printing a report or Microsoft Word® document. If the operator has permission to access the Credential Design application and photo (which is taken care of based on the terminal service login), printing a credential is permitted.

User questions

Question: ***My Diagnostics component services have started. Why doesn't System Manager and Manager services start?***

If you have just restored a database or re-created a database, you need to relicense and restart your system in order to start the application.

Question: ***How do I put a reader online?***

From the Application pane, select **Access**, then select **Reader.** From the right side of the screen, select the reader you want to set online and check the **Online** and **Active** options.

Question: ***How do I get into the Credential Design program?***

1. The client you are using must have a license for Imaging. Select Monitors & Controls, then Client Monitor. The bottom section of the Client Monitor Form contains the section Imaging Information. (You may need to make the window larger to display the number of Imaging licenses presently in use and number of Imaging licenses you are allowed, as purchased with your system.) Locate the name of your computer in the Client list. Then, look in the column Imaging status and verify that it reads Enabled.
2. If Imaging status reads Disabled and the numbers indicate a license is available for use, go to the Administration menu and select Client. On the Client Form, Client tab, select Enabled in Imaging Status to enable Imaging. Return to the Client Monitor Form to validate the Enabled status. You may need to log off and log on again in order for the selection to take effect.
3. If you are licensed and Imaging is enabled, the Edit Credential Design button becomes enabled allowing you to enter the Credential Design program. Sample credential designs are provided to get you started.

Question: ***What is wrong when I run Diagnostic Viewer, try to open a file, and only one logfile shows in the Logfile Dialog?***

This indicates the database cannot be accessed. Test the database connection by following the steps in *'I get a connection error when I try to start the client software. What should I do now?" on page 363*.

Question: ***Why do Services shut down while Diagnostic Viewer is running? A dialog box pops up and displays the message "Diagnostic Manager Service has Shutdown". After I restart services, no new messages are displayed.***

Communication has been lost with the services and the file needs to be reopened again when the services are up and running.

Question: ***What is the order in which the services should be shut down and started?***

Shutting down the Diagnostics Service shuts down the other Services. Refer to your *Installation Guide* for a detailed description of Services.

Note the service dependencies as described in *Table 205*:

Table 205. Service Dependencies

Service	Dependency
Diagnostics	Microsoft SQL Server 2000 or 2005 must be running on the Database Server PC before diagnostics can run on client computers.
System	Diagnostics
Manager	Diagnostics, System
Webservice	System Manager and automatically starts when the Manager service starts.
API	Diagnostics, System, System Manager This service can be started manually at the time you install an API interface

Question: ***I shut down my license domain server (cold boot). My clients are reporting database errors (that is, they have lost their network connection). Why?***

This can occur when the network goes down for any purpose (common examples: hub loses power temporarily; network cable cut or broken).

It is best to either have clients use the Client Monitor Form to force users off, or notify all clients to restart after a cold boot of the server is complete and after services have restarted on the license domain.

Question: ***My services do not shut down. What can I do?***

Run the program `spstop.exe` found in the FCWnx folder. Click **Start**, then **Run**. At the Run window, click **Browse** and navigate to `spstop.exe`. Click **Open** to display the file name in the command line of the `Run` window and enter `all`. The Run window now displays as follows:

```
"Program Files\GE\FCWnx\ SPstop.exe" all
```

Click **OK** to stop the services.

Question: ***What should a normal startup of services look like in the logfile?***

It should look similar to the following with the exception of machine name and machine-encoded seed and micros that may show up in the log. The following sample startup script displays a sequence of key events in the startup process. Note in bold: **SYSTEM SERVICE STARTED, STARTING MANAGER SERVICE**, etc.

Video

Question: ***What can I do when a video session does not launch?***

If you select **Video Console** from the Application toolbar or in the Monitors & Controls Group of the Application Group pane, and a video session does not open:

1. Review your diagnostic log file entries for errors or warnings. Refer to *Diagnostic settings on page 347*.
2. You may have to restart your computer to restart your FCWnx services.

Customer Support

Note: If you require assistance, first contact your local Business Partner.

To contact GE Security, use the following numbers and addresses:

- Telephone:
  United States: 1-888-GE SECURITY (1-888-437-3287)
  Asia: 852-2907-8108
  Australia: 61-3-9259-4700
  Europe: 48-58-326-22-40
  Latin America: 305-593-4301

  Be ready at the equipment before calling.

- Web Site: www.ge-security.com
- Support: rs-bctsupport@ge.com
- Documentation: bctdocs@ge.com

Note: Check the Web site periodically for timely information on all GE Security products.

Appendix B Certifications

This appendix provides information about certifications for a UL-listed system.

In this appendix:

Overview 376
UL certification 376

Overview

Your installation must adhere to the requirements listed in the Certification section of the *Installation Manual*, in order to qualify as a UL-listed system.

UL certification

Facility Commander Wnx is a UL-listed system (*UL 1076 Grade A Proprietary Burglary Requirements/UL 294 Access Control Requirements*). You must adhere to the following requirements in a UL-listed installation.

1. The computer and monitor shall be completely duplicated. Provision for switchover within 6 minutes is required (30 seconds for manual transfer of cables and 5 minutes 30 seconds for the system boot sequence).
2. Compatibility has been verified with the following protected premise-control units:
   - ACU2X, ACU2XL8, ACU2XL16, ACURS2, ACURS4.
   - Micro/5 and Micro/2000 using a PXN or PXNplus CPU board
3. The system shall be connected to a listed surge suppressor with a maximum marked rating of 330 volts.
4. The installation instructions shall specify signal line transient protection complying with the *Standard for Protectors for Data Communications and Fire Alarm Circuits, UL 479B*, with a maximum marked rating of 50 volts.
5. The equipment shall be installed in a temperature-controlled environment. Twenty-four hours of backup power shall be provided to the HVAC system. The HVAC system shall be capable of maintaining a temperature between 55° and 95° F.
6. The installation instructions shall specify that, in addition to the main power supply and secondary power supply that are required to be provided at the central supervisory station, the system shall be provided with an uninterruptable power supply (UPS) with sufficient capacity to operate the computer equipment for a minimum of 15 minutes. If more than 15 minutes is required for the secondary power supply to supply the UPS input power, the UPS shall be capable of providing input power for at least that amount of time. The UPS shall comply with the *Standard for Uninterruptable Power Supply Equipment, UL 1778*, or the *Standard for Fire Protective Signaling Devices, UL 1481*.
7. A UL-listed printer shall be provided.
8. Signal prioritization shall be set up as follows (from highest to lowest: Alarm, Trouble, Supplementary (such as access control).
9. Polling of a receiving unit must not exceed 200 seconds.
10. Exit and Entry delay must not exceed 60 seconds.
11. Communication between Host and Protected Premise Units must consist of an independent, dedicated, and direct Ethernet line. Communication over LAN and WAN has not been investigated by UL.
12. Elevator Control, DVR, CCTV, Camera functions, and Keypad Alarm Response have not been evaluated by UL.

Glossary

This section explains some terms as they apply to FCWnx.

Table 206. FCWnx terms explained

Element	Description
antipassback	Antipassback (APB) is an access control feature designed and configured to reduce the chance of users 'passing back' their credential to another person attempting to gain access. ***Micro Controllers:*** When readers are designated as entry (IN) or exit (OUT), the system is able to record whether a user is inside or outside at any time by noting the last place a credential was used. If the last valid transaction was reported at an IN reader, then the system knows that they are inside. If the last valid transaction was at an OUT reader, then the system knows that they are outside. • Active APB does not let a person re-enter unless they first exit. The user is unable to 'pass back' their credential to allow a friend to gain entry. • Passive APB records the status but does not enforce the status. The system knows where a person is but does not stop them from entering twice. • Timed APB refers to a system where users are 'forgiven' after a certain length of time, configured in minutes. After the configured time is expired, the user status is set to 'neutral' and the system allows them to re-enter. This eliminates the need for an OUT reader and prevents a credential holder from re-entering for that time period. • Global APB tracks the user throughout the entire FCWnx network and across all controllers. No matter where a user is, their APB status is recorded. • Regional APB (FCWnx Global configuration) tracks the user within a Region. The user is active in that Region only and inactive in all other Regions. APB transactions using **Valid No Passage**, as selected on the Reader form: • Transactions are not tracked if the door is not opened.

Table 206. FCWnx terms explained (continued)

Element	Description
	ACU controllers: When designated as Entering Area or Exiting Area readers, the system is able to record whether a user is inside or outside of an Area at any time by noting the last place a credential was presented. **Note:** If one Area is configured for APB, ALL Areas must be configured for APB. • The Area must be defined as an APB Area on the Area form. • To track and grant/deny access based on APB Areas, APB Areas must be configured across ACUs. • When exiting an APB Area to a non-APB Area, the credentialholder must exit the non-APB Area before being allowed back into an APB Area, otherwise, a Tailgating error occurs. This error is prevented by assigning Multiple Exiting Areas on the Reader form. • Timed APB on the reader takes precedence over the timed ABP setting on the Area form. **APB with door contact:** • The user must open the door to be placed in the Area. • If Valid No Passage is enabled and the door is opened, Valid Open is displayed on the Activity monitor. The User is recorded as IN the Area. • If Valid No Passage is not enabled and the door NOT opened, Valid No Passage is displayed on the Activity monitor. The User is NOT recorded as in the Area. • If Valid No Passage is NOT enabled and the door is opened, Valid is displayed on the Activity Monitor. The User is recorded as IN the Area. • If Valid No Passage is NOT enabled and the door is NOT opened, Valid is displayed on the Activity Monitor. The User is NOT recorded as in the Area. **APB without a door contact:** • If Valid No Passage is enabled and the door is opened, Valid Open is displayed on the Activity Monitor. The User is recorded as IN the Area. • If Valid No Passage is enabled and the door is NOT opened, Valid Open is displayed on the Activity Monitor. The User is recorded as IN the Area. • If Valid No Passage is NOT enabled and the door is opened, Valid is displayed on the Activity monitor. The user is recorded as IN the Area. • If Valid No Passage is NOT enabled and the door is NOT opened, Valid is displayed on the Activity Monitor The user is recorded as IN the Area. **Note: By default, all readers are created with a door contact DI defined.**
archive	An archive is a history of transactions. The archive is created automatically by this application, based on the time interval that you selected on the Preference form (Daily, Weekly, or Monthly). Refer to *Archiving, on page 34*.

Table 206. FCWnx terms explained (continued)

Element	Description
arm/disarm an area	This application supports global (spans multiple ACU controllers) and local (one ACU controller) arming and disarming of an Area using the reader keypad or manual control. Global operation requires host-to-controllers communication. Local operation allows arming/disarming without host communication. **How arming works** 1. The operator enters a credential identification number and swipes a credential. 2. The display requests the operator to enter a PIN. 3. The operator enters a PIN number plus 10 (for example, 1234 + 10 = 1244; the operator enters 1244) 4. A message displays the state of the Area arming as successful. **How disarming works** 1. The operator enters a credential identification number and swipes a credential. 2. The display requests the operator to enter a PIN. 3. The operator enters a PIN number plus 20 (for example, PIN is 1234 + 20 = 1254; the operator enters 1254). 4. A message displays the state of the Area disarming as successful. **When using the 'Areas for Arm/Disarm' feature:** **Note:** The keypad arm/disarm feature must be configured as 'Local' on the Area form, Alarm tab. **Arm** 1. The operator enters an asterisk (*), swipes a credential, and enters a PIN (if required). 2. Using the arrows to scroll up and down through the Areas displayed, select the Area to arm. 3. Select **ON**. 4. Reader display indicates Area Secured. **Disarm** 1. The operator enters an asterisk (*), swipes a credential, and enters a PIN (if required). 2. Using the arrows to scroll up and down through the Areas displayed, select the Area to arm. 3. Select **OFF**. 4. Reader display indicates Area Unsecure.
auto update	Use this form to configure your network computer for this application, for automatic notification and installation of the latest Quick Fixes and Service Packs. This feature must be coordinated with your IT Department. They may have certain procedures, restrictions, or security policies in place.
backup	A backup is a copy of selected data. Since this application does not contain a backup option, you can use any method you like to back up the data. Refer to *Backing up data, on page 34*.
calendar	Select the day, month, and year, such as the controls of credential issue, return, or expiration. Click **OK** to accept the selected date displayed and close the form. Click **Cancel** to close the Calendar form without making any changes. Click **None** to clear the date currently in the field.
demo mode	When the **License Setup** window displays during the installation sequence, the option to **Cancel** can be selected. Installation of this application completes and operation of your system continues in demo mode until you successfully license your system. After each hour of login time, the system shuts down and you are required to restart this application to continue operations. This sequence continues indefinitely if you have not properly licensed your system. Refer to the Online Help system in the Licensing Setup for additional information.

Table 206. FCWnx terms explained (continued)

Element	Description
DES/DESIII	Data Encryption is additional security assigned to protect the Host-to-controller exchange of information. The data messages are encrypted. Methods of Encryption **DES**: This option uses a single pass of authentication and 16 unique hex characters are required. **DES III**: This method of encryption uses a three-pass authentication process. Starting at the left, the first pass authenticates 16 hex characters. The second pass authenticates 16 hex characters. The third pass authenticates all 48 hex characters.
Diagnostic Viewer	The Diagnostic Viewer application is a diagnostic tool used in conjunction with this application. Diagnostic Viewer allows you to view the contents of the application diagnostic log files, apply filters to limit the information displayed, and search for a specific log entry. Each day, this application writes messages to a diagnostic log file. Refer to *Diagnostic Viewer program, on page 351*.
Diamond II	Diamond II (DII) is a Browser-based Facility Security System for access control, alarm monitoring, DIAMOND II Color Graphics, photo badging, and CCTV control. FCWnx combines the features of *Secure Perfect* and Diamond II software with a whole new look! Features are enabled on the application forms according to the controller hardware and system that you purchased and licensed.
encryption	See *DES/DESIII, on page 380*.
facility	The FCWnx database can be partitioned and grouped. These groupings are identified as Facilities. If Facilities are not defined, all operators are able to access all the FCWnx records, based on the permissions associated with the form. Reminders: • Facility partitioning does not involve access rights or who goes where. • The same facility is assigned for all devices associated with the controller when a controller is created. • Reports can be generated based on the currently active facility or all facilities assigned to the current operator. • GLOBAL SYSTEMS: To view transactions outside of your region, you must have in your active facility, the client's facility where the transactions are occurring. Sequence Guide: 1. If facilities are going to be used, the facilities must first be defined in FCWnx, on the Facility form. When creating a facility record, enter a description that uniquely identifies the location or function of the facility. 2. Permissions are created and defined to determine what form and what fields are available within FCWnx. **Note:** The forms in FCWnx display an icon in the left corner indicating the permissions assigned to the current operator. The form icons correspond to the icons and permissions assigned on the Permission form. 3. Once defined, facilities and permissions are available for assignment to an operator on the Operator form. a) At any given time, the current operator has the ability to select the active facility for that session, from the list of all facilities that the current operator is allowed to see. b) When a facility is assigned to an operator, it displays in the Facility drop-down list of FCWnx forms after a successful login by that operator. Depending on assigned permissions, that operator can now create records and assign facilities from the list that displays in the Facility drop-down list.

Table 206. FCWnx terms explained (continued)

Element	Description
hex character	Valid and allowable hex characters include the base 16 numbering system (0 through 9 and A through F).
image capture	Your photographs and signatures can be created by digital cameras, video cameras, and signature pads. Support for certain Imaging features and functions may be product specific and not necessarily supported by all compatible peripherals. Refer to *Image capture, on page 256*.
integrity utility	The utility can be run manually if you want to check your database integrity. The system compares and validates the integrity of your database schema. If selected, the system automatically corrects missing or incorrect schema properties such as columns, keys, constraints, indexes, triggers, and tables. The executable file is installed with this application and resides in the program folder. Refer to *How can I test the integrity of my database?, on page 356*.
language	On the Operator form, click the drop-down list to display a list of available languages installed on your system. Select the language with which this operator accesses and operates the FCWnx system. Refer to *Multiple language support, on page 64*.
mass update	This option is not available until at least one record exists in the list box to the right of the form. The Mass Update mode allows you to simultaneously update properties on a group of records within the application. This is very helpful when a number of records for a single form require the identical property or value change. Forms where Mass Update is applicable include the Person form and Credential form. Refer to *Mass update, on page 268*.
PDF	Portable Document Files (PDFs) are read-only electronic versions of printed documents. The documents are in PDF format and included on a separate document CD. Adobe Acrobat Reader is required to view these documents. It is also included on the CD. If you do not already have Adobe Acrobat Reader installed, follow the steps below: 1. Copy the Acrobat executable file from CD-ROM onto your hard drive. 2. Navigate to Windows Explorer and double-click the file. 3. Follow the on-screen installation instructions. To view the PDF file, double-click the file name or start Adobe Acrobat Reader and open the document you want to view. For additional information, refer to Adobe Acrobat Reader online Help.
Save Position	To save the position of any main application or external application window, right-click to display a shortcut menu. Select **Save Position**. Close the window. When re-opened, the window displays in the saved position.
Secure Perfect	Secure Perfect is a multi-edition software offering of Integrated Secure Management Software designed on Microsoft Windows technology. Secure Perfect Editions provide full security management functions including access control, intrusion zone control, alarm monitoring, reporting, photo ID badging, and CCTV interfaces as standard features. Secure Perfect Editions also offer integrated system options that include digital video surveillance and Web-based reporting. FCWnx combines the features of Secure Perfect and *Diamond II* software, and has a whole new look! Features are enabled on the application forms according to the controller hardware and system that you purchased and licensed.

Table 206. FCWnx terms explained (continued)

Element	Description
Simple File Sharing	Simple File Sharing is a feature in Windows XP that removes file sharing security options available in other versions of Windows. This setting must be disabled for FCWnx to operate successfully between Servers and clients. Once the user sets the permission, the user and clients have access to shared files and the ability to assign passwords to shares. To disable folder shares: 1. Double-click **My Computer** on the Windows XP Desktop. 2. From the **Tools** menu, select **Folder Options** to open a Folder Options window. 3. Click the **View** tab and locate the **Use Simple File Sharing (Recommended)** checkbox in the list of Advanced Settings. 4. To disable Simple File Sharing, ensure this checkbox is not checked. Click inside the checkbox to disable the option. (The Simple File Sharing checkbox should be at or near the bottom of the Advanced Settings list.) 5. Click **OK** to close the Folder Options window. The settings for Simple File Sharing are now updated; no computer reboot is required. **Note:** 1. Enabling Simple File Sharing prevents the ability to assign user-level passwords to shares. When Simple File Sharing is enabled on a computer, remote users are not prompted for a password when accessing that computer's shares. **Note:** 2. If the Windows XP Professional computer is part of a Windows domain rather than a Windows workgroup, this process for enabling or disabling Simple File Sharing has no effort. Simple File Sharing always remains disabled for computers joined to domains.

Table 206. FCWnx terms explained (continued)

Element	Description
SCIF	A group of rooms or buildings may be used for handling or processing classified information. These areas are called **Sensitive Compartmentalized Information Facilities (SCIF)**. Control is limited to the SCIF client workstation assigned to the Area. Workstations within these areas must be configured with specific security clearance and permissions. **Recommended order for creating a SCIF Area:** 1. You must define a facility on the Facility form specifically for dedicating the device configurations belonging to this SCIF Area. 2. On the Client form, Client tab, select Workstation Type as **SCIF**. 3. On the Controller form, configure the controller (add to the SCIF facility if it is to be dedicated to SCIF functionality) 4. If the controller is not SCIF-dedicated, configure the reader, DI, alarm, and DO devices, assigning each device to the SCIF facility. 5. On the Area form: • Assign the SCIF facility. • Select **Enable SCIF**. • Assign a workstation to this SCIF Area. **Note:** Devices assigned here must be assigned to the facility created for the SCIF Area. • Assign readers. • Assign alarms. • Assign DOs. When an Area is designated as a SCIF Area and assigned to a SCIF workstation, this workstation is able to control functionality for the SCIF Area. Monitoring and control can be made at that SCIF workstation only. Modifications to the SCIF Area configuration (such as unassigning the area as SCIF, or unassigning the Area to the SCIF workstation) can be made on a non-SCIF client only if the operator has SCIF facility permissions. 6. Assign Access Rights, Persons, and Credentials. **Note:** Alarms, events, and functions associated with a SCIF workstation cannot be configured, monitored or controlled through an API connection unless you are at the SCIF workstation.
services	Windows uses special programs called services. A service is a process that can start automatically when the system boots and remains running as a background process independently of anyone being logged in. It runs regardless of whether anyone is logged into Windows or FCWnx. In other words, the computer must be turned on but no one needs to be logged in. SQL Server 2000/2005 MUST be running for network clients to connect and share the SQL database. **FCWnx Diagnostics** handles all diagnostics on all computers. **FCWnx System Manager** manages communication between computers and licensing. This service also starts the FCWnx WebService. **FCWnx Manager** is the main service and handles controller communications and alarms. **FCWnx Webservice** handles the video media service. This service is dependent on the System Manager and automatically starts when the Manager service starts. **FCWnx Media Server** is handled entirely by FCWnx Webservice. This service requires no user intervention, and starts and stops automatically. **FCWnx API Service** is used when using an API interface. This service is used when an external system is sending or receiving transactions by way of Application Program Interface to this application. This service can be started manually at the time you install an API interface. **Note:** Changing the state of services without a good working knowledge of the purpose can cause the computer to act erratically! Refer to *Facility Commander Wnx edition services, on page 4*.

Table 206. FCWnx terms explained (continued)

Element	Description
Swipe and Show	**Note:** Only one instance of Swipe and Show is available for display on a computer at one time. If readers have not been selected, the program does not start. If Imaging is not licensed for the system, this option is not available. The Swipe and Show program is a monitoring and validation option, available on the Activity Monitor form. When properly configured and following a credential transaction, the operator is able to observe a credential photo and text description of the transaction in the Swipe and Show window. An operator is able to monitor transactions and compare the photo ID to a live image. The Swipe and Show window is set to a default size and cannot be resized.
Tailgating	Tailgating refers to a user following another user through a door without presenting a credential. They follow closely enough so they can get through the door or gate before it closes. Only the first user is recorded as IN or OUT.
weak encryption key	Weak encryption implies that the key could be unscrambled with a realistic amount of processing capacity and within a reasonable amount of time. In FCWnx, a message displays informing you that an assigned key is too weak and therefore, invalid. Corrections must be made before the record can be saved. We recommend entering 48 unique hex characters, in three 16-character strings. Do not repeat any character. Do not create a pattern.

Index

A

access right *237*, *240*, *241*, *242*, *243*, *245*, *269*, *290*
- assign readers *239*
- define *238*
- facility *380*
- floor *240*
- person form *253*
- person report *331*

active directory
- password authentication *64*

activity monitor *288*
- shortcut menu *292*
- toolbar *291*

ACU *89*, *93*, *105*, *114*, *128*, *129*, *179*, *180*, *181*, *220*

address *19*, *46*, *94*, *110*, *144*, *190*, *195*, *250*, *321*, *331*, *364*
- bus *191*
- controller *89*, *92*, *93*, *304*, *305*, *306*, *308*
- DVR *191*
- e-mail *75*, *251*
- e-mail field *26*
- fields *29*
- GE Security *373*
- IP *106*
- module *85*
- reports *328*
- TCP/IP *192*

alarm *9*
- alarm notifier *26*
- console sound *25*
- description *154*
- e-mail notification *2*
- event notifier *5*
- event triggers *13*
- failover *56*
- history *36*
- owner *156*
- priority *170*
- schedules *68*
- sense time *170*
- settings *156*
- sounds *2*

alarm groups *167*

alarm instruction *9*

alarm monitor
- column headings *297*
- shortcut menu *299*
- toolbar *298*

alarm points *8*

alarm printing *52*

alarm responses *9*, *152*

alarm video popup
- enable *205*

alarms *153*
- adding sound *167*
- routing and bumping *172*

antipassback *377*

API connections *176*

architecture
- client/server *4*

archive *33*, *34*
- appending archive databases *36*

area
- arm/disarm an area *379*
- arm/disarm by access right *228*
- arm/disarm by manual control *228*
- define *220*

arm/disarm
- area by access right *228*
- area by manual control *228*
- intrusion zone by manual control *230*
- intrusion zone options *229*

auto shutdown
- services *51*

auto update *342*
- check for update *344*

B

backing up data *34*

backup client *53*

backup region *41*

before you begin *3*

C

camera
- preset *200*

camera presets *197*

cameras *198*
- enable *199*
- presets *197*
- PTZ Control *193*
- status *195*
- type *199*

CCTV *216*

certifications *375*

check for upgrade *15*

clear archive *33*

client
- backup *53*
- configure *48*, *49*

client monitor
- shortcut menu *303*
- toolbar *302*

client redundancy *56*
client/server architecture *4*
clients groups *57*
COM port *361*
communication setting *31*
connection error *363*
controller
  configuration *104*
  definition *92*
  description address *93*
  flashing *111*
  hardware address *93*
  type *93*
controller flash and controller preference configuration *110*
controller monitor *303*
  controller flash and controller preference configuration *308*
  search criteria and controller selection *306*
  shortcut menu *307*
  toolbar *306*
controller record generation *86*
controller records
  dial-up *90*
  direct-connect *89*
controllers *86*
conventions *xiii*
converting *358*
creating records *20*
credential *17*, *22*, *3*, *8*, *11*, *16*, *25*, *26*, *27*, *41*, *44*, *52*, *60*, *73*, *84*, *85*, *92*, *102*, *115*, *116*, *118*, *120*, *123*, *127*, *290*
  access mode *131*
  activity monitoring *288*
  alarm processing *296*
  alias *45*
  archive history *36*
  assign guard tour *283*
  backup data *34*
  client redundancy *56*
  define *262*
  design *259*
  door schedule *125*
  facility code/company code *127*
  format *110*, *114*, *273*
  formats in 40-bit and 55-bit wiegand protocol *276*
  guard tour *280*, *282*, *283*
  history report *18*
  history transactions *123*
  IKE readers *132*
  loading *89*, *95*
  loading method *91*
  PIN digits *38*
  readers *112*
  report *17*, *328*
  route activity *282*
  swipe and show *294*
  tour points *283*
  transaction override *323*
  user fields *28*
customer support *373*

D

database utility
  Integrity utility *356*
  MSDEAdmin *357*
DCOM *6*
debug *353*
debug messages *348*
deleting records *22*
demo mode *3*, *55*
departments *246*
dependencies
  service dependencies *372*
DES/DESIII *100*, *380*
device configuration *84*
diagnostic object *348*
Diagnostic Viewer *351*
  menus *352*
  preferences *354*
diagnostics *344*
  Diagnostic Viewer *351*
  remote *345*
  troubleshooting *341*
dial-up controller records *90*
dial-up troubleshooting *364*
digital input *133*
  status *309*
digital output *143*
  status *311*
digital output groups *149*
digital video recorders
  define *188*
direct connect controller records *89*
documentation CD *358*
domain controller *64*, *359*, *361*
download
  alarm *305*
  status *305*
driver installation
  video *188*
DVR *190*
  address *191*
  alarm *156*
  define *188*
  define cameras *198*
  report *332*, *334*

status *194*
supported connections *189*
type *191*

E

editing records *21*
edition
enterprise *2*
professional *2*
elevator *115*, *128*, *135*, *180*, *181*
defined *178*
digital output interface *96*
floor tracking by input *179*
floor tracking by keypad *179*
no floor tracking method *179*
public access *182*
reader *115*
elevator control
sample scenarios *186*
e-mail
notification *75*
e-mail support
alarm notifier *26*
employee number
upgrade *2*, *27*
encryption *99*, *100*, *103*
event log *358*
event notifier *73*
event trigger
define *201*
video *201*

F

facility *47*, *380*
FCWnx.ini *342*
firewall *6*, *32*, *363*
floor tracking *179*
folder
application *34*
archive databases *36*
credential design *260*
exchange *15*, *330*
images *259*
logs *249*, *345*
program *381*
shared *49*
system32 *344*
video *208*
format
credentials *273*
frequently performed tasks *1*

G

global configuration *2*
global configuration regional rules *44*
glossary *377*
graphics console *313*
guard tour *280*
conditions *280*
points *283*

H

hard drive
data accumulation *269*
usage by Diagnostic Viewer *348*, *351*
usage during debug *353*
help topics *19*
hex character *381*

I

IKE readers *132*
image capture *256*
crop an image *257*
displaying existing images *257*
input device *256*
instructions *151*
Integrity utility *356*
interface *216*
API *5*, *383*
CCTV *2*, *216*
intrusion zone *230*
arm/disarm *234*

L

language *370*
language support *64*
licensing *3*
log off *8*
log on/log off *8*
logfiles *345*
low-battery alarm *88*

M

M/5-PXN *110*, *308*
maintenance *18*, *34*, *35*, *36*, *357*
manual control *314*
mass update *268*
conditions *269*
menus *9*
file *14*
help *19*
report *17*
search *16*
video console action menu *212*
video console display menu *212*
video console file menu *211*
video console window menu *213*
view *16*

window *19*
Micro *86*, *87*, *88*, *93*, *105*, *114*, *128*
Micro/5 *xiv*
flashing *111*
Micro/PX-2000
flashing *111*
MicroPXNPlus
flashing *111*
mode label *28*
module *364*
monitor
activity *288*
alarm *294*
client *300*
controller *303*
MSDEAdmin *357*

N

navigation *8*
network *3*, *4*, *56*, *84*, *106*
auto update *342*
bandwidth *193*
comm device messages *305*
connection issues *360*
controller *54*
controller settings *94*
encryption *99*, *103*
firmware *111*
firmware file *309*
guard tour controller *282*
logfile *345*
parity checking *275*
PC name *50*
port settings *106*
primary *106*
printing *52*
secondary *107*
security permissions *52*
SMTP server name *73*
storage *36*
system clients *48*
takeover and recovery *55*
TCP/IP address *192*

O

online help *355*
operators *61*
override
transaction *323*
overview *2*

P

panes *9*
parity checking *275*
password *177*
active directory *64*
authentication *63*
performance *357*
permissions *58*
person *17*, *10*, *26*, *44*, *116*, *127*, *179*, *180*, *220*, *229*, *230*, *233*, *237*, *238*, *255*, *331*
access right *253*
address fields *29*
define *247*
define credential *262*
define type *245*
image capture *256*
invalid *288*
monitor *288*
name *248*
photo aspect ratio *25*
report *331*
reports *328*, *330*
reports menu *17*
selection *75*
transaction override *323*
user field *27*
persons *247*
ping
client connectivity *49*
database connection heartbeat *54*
time interval *52*
play controls *211*
popup
video *205*
ports *15*, *361*, *363*
firewall and DCOM *6*
preface *xiii*
preferences *24*
printer
credential *362*
printer driver
installing *261*
product
contents *3*

Q

questions and answers *356*
quick launch *293*
quick setup guide *1*

R

RAID server *365*
reader
define *112*
IKE *132*
keypad alarm shunting *118*

keypad only type reader *118*
normal type reader *118*
read and keypad type reader *117*
schedules *126*
status *127*
record generation
controller *86*
records
creating *20*
deleting *22*
editing *21*
records generation *86*
recovery *55*
regions *39*
APB region configuration *43*
backup region *41*
registry
settings *34*
related documentation *xiv*
remote diagnostics *345*
replication *46*, *358*
replication and synchronization conflicts *46*
report form tabs *330*
reports *327*
default template *330*
designing *329*
print *330*
templates *329*
restoring databases *36*
routing and bumping *78*, *156*, *172*

S

safety terms and symbols *xiii*
schedules
event *71*
mode *77*
time *68*
SCIF *50*, *60*, *112*, *154*, *176*, *222*, *226*, *314*, *315*, *316*, *317*, *318*, *383*
search *11*, *16*, *368*
by video event *214*
clear *11*
recall *11*
security tab *36*
sense time *135*, *141*
service pack *366*
services *4*, *5*, *20*, *35*, *45*, *46*, *47*, *53*, *55*, *357*, *364*, *365*, *371*, *372*, *383*
auto shutdown *51*
dependencies *372*
e-mail *73*
logoff *8*
monitor *301*
SQL *25*, *35*
thin client *51*
shunt *117*, *118*
keypad *118*
shutting down *8*
simple file sharing *382*
on WinXP *5*
SMTP server *73*
subscription to publication *358*
support *373*
suspended *26*, *96*, *116*, *247*, *262*, *264*, *266*, *271*, *273*, *288*, *290*, *291*
swipe and show *293*
symbols *xiii*, *314*
synchronization *46*
system preferences *23*

T

takeover and recovery *55*
taskbar *19*
TCP/IP *48*, *49*
TCP/IP address
DVR *192*
template
report *329*
report default *330*
terminal services *370*
thin client *51*
time zone *100*
toolbars *9*
training *xiv*
transaction override *323*
troubleshooting *341*
diagnostic settings *347*
diagnostics *341*
dial-up *364*
global *370*
logfiles *345*
remote diagnostics *345*

U

UBF
Universal Credential Format *110*
UL certification requirements *376*
underlined letters *369*
unique and required employee number *2*, *27*
Universal Credential Format
UBF *110*
upgrade *34*, *111*, *309*, *344*, *345*
check *15*
logs *345*
password consideration *8*
unique and required employee number *2*, *27*

V

versions
- software, firmware *368*

video
- console *209*
- event trigger *201*
- play controls *211*
- record to CD *207*
- recording device *208*

video console
- search for video *213*
- video console window *209*

video popup
- enable alarm video popup *205*

W

weak encryption key *384*
WiseUpdate *342*

North America
T (561) 998-6100
T 888-GE-SECURITY
888-(437-3287)
F 561 998 6224
E rs-bctinfo@ge.com

Asia
T 852-2907-8108
F 852-2142-5063

Australia
T 61-3-9259-4700
F 61-3-9259-4799

Europe
T 32-2-725-11-20
F 32-2-721-40-47

Latin America
T 305-593-4301
F 305-593-4300

www.gesecurity.com

© 2007 General Electric Company
All Rights Reserved

imagination at work